

PERSONALITY ASSESSMENT PROCEDURES

UNDER THE EDITORSHIP OF GARDNER MURPHY

Personality Assessment Procedures

PSYCHOMETRIC, PROJECTIVE, AND OTHER APPROACHES

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PREFACE

THIS BOOK surveys the techniques and procedures currently used for evaluating personality. Obviously, not all of the testing devices can be included in any one book of limited size. Furthermore, the frequency with which newly devised assessment procedures appear in the literature makes selection of tests to be included a difficult task. Inclusion of a particular test in this volume is by deliberate choice. Omission may be purposeful or merely the result of a printing deadline.

The book is divided into six major sections. Part I, An Overview of Test Problems, presents definitions and a short history of test development in the first chapter. Chapters 2 and 3 discuss the desirable test and its elements of construction.

Part II, The Psychometric Method, covers four chapters. Of these, Chapters 4 and 5 are devoted to an elaboration of the more significant single trait personality tests. The multidimensional devices are the subject matter of Chapters 6 and 7. Wherever feasible, each test is briefly reviewed for its basic rationale, area(s) of application, format, research findings, and strengths and weaknesses. Excerpts and partial reproductions are given for many of the tests.

Part III, The Projective Procedures, begins with Chapter 8 which presents a history and rationale of the projective method. Chapter 9 surveys the variety of inkblot techniques both individual and group methods. The thematic devices are presented in Chapters 10 and 11. The drawing techniques and free association as projective procedures are discussed in Chapters 12 and 13. Miscellaneous projective tests which are not readily classifiable under the previous procedures are detailed in Chapter 14.

Part IV, Physical, Chemical, and Physiological Methods,

briefly touches upon the lesser used modes of personality assessment. Chapter 15 elaborates on body-type systems, the glands and personality, and the electroencephalograph and polygraph as evaluating procedures and instruments.

Part V, *Life Situations as a Method of Personality Assessment*, continues the trend of Psychology to come out of the laboratory into the world of real people and events. Situational procedures such as the OSS project and the leaderless group method are reviewed in Chapter 16. Case history as a technique is illustrated in several forms. Group interaction as an assessment technique is discussed by Dr. Jack A. Kapchan as a part of the sociometric approach.

The final section, Part VI, *The Application of Personality Tests and Ethics of the Profession*, points up areas in which assessment tools are helpful. Chapter 17 details the clinical applications while Chapter 18 centers about personality assessment in education, vocational guidance, industry, and in the services of the defense establishment. The culmination of a profession's efforts to attain status is reflected in Chapter 19, *Testers and Ethics*.

Writing a book such as this is not the work of the author alone. The direct and indirect help of many persons and institutions is herewith acknowledged. The administration of the University of Miami contributed by making time available through a reduction in teaching load for the academic year. The library personnel at the University of Miami, New York University and the New York City Library (42nd Street Branch) gave willingly and patiently of their time, advice, and services. The authors listed in the Index of Names and their publishers were extremely coöperative in granting permission to use excerpts from their articles and books. To these the author wishes to express his gratitude.

Dr. Jack A. Kapchan, assistant professor of psychology, University of Miami, contributed the portion of Chapter 16 on Group Interaction and Sociometry. Ruth DeBedts and Elizabeth McGovern, departmental secretaries, typed and retyped many of the chapters in the manuscript. Don Lichtenstein, graduate assistant, performed a variety of routine tasks so es-

sential in the building of a book. To these and others not specifically named, the author is thankful.

No words can describe the author's debt to his wife, Sue, and children, Jeff and Ruth, for their patience and understanding while undergoing the ordeal of another book. The encouragement of the author's colleagues is appreciated.

ROBERT M. ALLEN

Coral Gables
November, 1957

PART I

An Overview of Test Problems

1. BASIC INFORMATION

PERSONALITY AND RELATED DEFINITIONS

THE DEFINITION OF ANY ATTRIBUTE, WHETHER PHYSICAL or psychological, is concerned with what the phenomenon is, its essence, and its boundaries. The term *personality* is rooted in the Latin *persona* or mask. The reference is to the mask worn by ancient Greek and Roman actors. In time the mask came to represent the social stereotype of the stage character portrayed by the actor. There followed in rapid succession definitive statements by theologians, philosophers, sociologists, and lawyers. Psychological definitions emerged slowly (G. W. Allport, 1937) but in quantity—ranging from the mask concept of ancient days to the wide variety of systematic approaches by functionalists, behaviorists, psychoanalytical psychologists, and field theorists (G. W. Allport, 1937, pp. 24–25).

A practicable concept of personality for the applied psychologist should be behaviorally oriented. Thus, each time that a person is placed in a situation the response (or behavior) should furnish the raw material for making causal inferences regarding the observed response. In an ideal setting the observed responses or the descriptions of the behavior should have these attributes: (1) the time dimension—in that the current activity contains aspects of the individual's past experience and attitudes toward the future, (2) ready availability for measurement and recording, and (3) yield similarities as well as differences in the

Reputation

The differentiation between character and reputation is made on the basis of the origin of the beliefs and estimates regarding a person. In character the attributes are inherent in the person's physical and psychological make up. Character exists in the absence of other people and is consistent. Reputation, on the other hand, consists of those qualities ascribed to an individual by other people and represents what an individual is supposed to be.

Temperament

This term describes the emotional aspect of behavior, thinking, and feeling. The origin of the concept harks back to the humoral theory of personality which held sway among the ancient Greeks. They attributed behavior to the proportionate mixture of the four humors or juices of the body: bile, lymph or phlegm, melanin and chole, and sanguis.

Mood

In contrast to the permanent emotionality of temperament, mood describes a temporary state. 'He is in an angry mood' indicates a transient emotional condition. The differentiating criterion is one of time and not intensity of the feeling.

HISTORY OF PERSONALITY TESTS

The sum total of the attempts to define terms related to the totality of human behavior discloses that each has a long etymological history (G. W. Allport, 1937; Black, 1951; Robick, 1952; Skat, 1935; Weekly, 1921). The changes in these terms reflect society's need to express developments in the classification and interpretation of behavior. Actually, it is not the motor and the verbal behavior that is difficult to

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observe and record. Rather, the hidden and unconscious drives to behavior—motives, attitudes, and ideas that do not yield to direct observation—are the subject matter for the psychologist concerned with the assessment of personality.

The evaluation of personality is as old as man himself. The methods of assessing and describing personality in earlier cultures were of the humoral and morphological variety. The latter procedure was grounded in assigning personality attributes from the shape and size of various body parts. A step forward in assessment progress was contributed by Galton (1869, 1874, 1907). His inquiries into imagery, hereditary genius, and personality typology quickened the pace of scientific investigation into the constituents of personality.

During approximately the same period of the nineteenth century, the forerunner of the present projective use of inkblots was introduced by Kerner (Klopfer and Kelley, 1942) to be followed by the investigations of Binet and Henri (1895-1896), Dearborn (1898), and Sharp (1899). These studies laid the basis for the assessment of personality by tests with varying degrees of structured stimuli. (These will be discussed in Part III on Projective Procedures.)

Turning to paper-and-pencil psychometric tests—inventories, questionnaires, and schedules—the prototype is the questionnaire devised by Woodworth, the Personal Data Sheet (later called the Psychoneurotic Inventory). This set of 116 questions grew out of a pressing need to screen out potential and actual military misfits during World War I. Robert S. Woodworth (1917), chairman of the Committee on Emotional Fitness of the National Research Council, was charged with the task of devising some method of identifying those emotionally unable to cope with the rigors of service life. The name, Personal Data Sheet, shortened to PD Sheet, was used to disguise its real purpose from the men taking the test. Because of its exemplar value for inventories which followed it, the PD Sheet is reproduced in its entirety (Woodworth, 1917; Symonds, 1931, pp. 175-178).

Woodworth Psychoneurotic Inventory

	Yes	No
Do you usually feel well and strong?		
Do you usually sleep well?		
Are you frightened in the middle of the night?		
Are you troubled with dreams about your work?		
Do you have nightmares?		
Do you have too many sexual dreams?		
Do you ever walk in your sleep?		
Do you ever have the sensation of falling when going to sleep?		
Does your heart ever thump in your ears so that you cannot sleep?		
Do ideas run through your head so that you can not sleep?		
Do you feel well rested in the morning?		
Do your eyes often pain you?		
Do things ever seem to swim or get misty before your eyes?		
Do you often have the feeling of suffocating?		
Do you have continual itching in the face?		
Are you bothered much by blushing?		
Are you bothered by fluttering of the heart?		
Do you feel tired most of the time?		
Have you ever had fits of dizziness?		
Do you have queer, unpleasant feelings in any part of the body?		
Do you ever feel an awful pressure in or about the head?		
Do you often have bad pains in any part of the body?		
Do you have a great many bad headaches?		
Is your head apt to ache on one side?		
Have you <i>ever</i> fainted away?		
Have you <i>often</i> fainted away?		
Have you ever been blind half blind, deaf, or dumb for a time?		
Have you ever had an arm or leg paralyzed?		
Have you ever lost your memory for a time?		

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	Yes	No
Did you have a happy childhood?		
Were you happy when 11 to 18 years old?		
Were you considered a bad boy?		
As a child did you like to play alone better than to play with other children?		
Did other children let you play with them?		
Were you shy with other boys?		
Did you ever run away from home?		
Did you ever have a strong desire to run away from home?		
Has your family always treated you right?		
Did the teachers in school generally treat you right?		
Have your employers generally treated you right?		
Do you know of anybody who is trying to do you harm?		
Do people find fault with you more than you deserve?		
Do you make friends easily?		
Did you ever make love to a girl?		
Do you get used to new places quickly?		
Do you find your way about easily?		
Does liquor make you quarrelsome?		
Do you think drinking has hurt you?		
Do you think tobacco has hurt you?		
Do you think you have hurt yourself by going too much with women?		
Have you hurt yourself by masturbation (self abuse)?		
Did you ever think you had lost your manhood?		
Have you ever had any great mental shock?		
Have you ever seen a vision?		
Did you ever have the habit of taking any form of "dope"?		
Do you have trouble in walking in the dark?		
Have you ever felt as if someone was hypnotizing you?		
Are you ever bothered by the feeling that people are reading your thoughts?		
Do you ever have a queer feeling as if you were not your old self?		

- Are you ever bothered by a feeling that things are not real? Yes No
- Are you troubled with the idea that people are watching you on the street?
- Are you troubled with the fear of being crushed in a crowd?
- Does it make you uneasy to go into a tunnel or subway?
- Does it make you uneasy to cross a bridge over a river?
- Does it make you uneasy to cross a wide street or open square?
- Does it make you uneasy to sit in a small room with the door shut?
- Do you usually know just what you want to do?
- Do you worry too much about little things?
- Do you think you worry too much when you have an unfinished job on your hands?
- Do you think you have too much trouble in making up your mind?
- Can you do good work while people are looking on?
- Do you get rattled easily?
- Can you sit still without fidgeting?
- Does your mind wander badly so that you lose track of what you are doing?
- Does some particular useless thought keep coming into your mind to bother you?
- Can you do the little chores of the day without worrying over them?
- Do you feel you must do a thing over several times before you can drop it?
- Are you afraid of responsibility?
- Do you feel like jumping off when you are on high places?
- At night are you troubled with the idea that somebody is following you?
- Do you find it difficult to pass urine in the presence of others?
- Do you have a great fear of fire?

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- Do you ever feel a strong desire to go and set fire to something? Yes No
- Do you ever feel a strong desire to steal things?
- Did you ever have the habit of biting your finger nails?
- Did you ever have the habit of stuttering?
- Did you ever have the habit of twitching your face neck or shoulders?
- Did you ever have the habit of wetting the bed?
- Are you troubled with shyness?
- Have you a good appetite?
- Is it easy to make you laugh?
- Is it easy to get you angry?
- Is it easy to get you cross or grouchy?
- Do you get tired of people quickly?
- Do you get tired of amusements quickly?
- Do you get tired of work quickly?
- Do your interests change frequently?
- Do your feelings keep changing from happy to sad and from sad to happy without any reason?
- Do you feel sad or low spirited most of the time?
- Did you ever have a strong desire to commit suicide?
- Did you ever have heart-disease?
- Did you ever have St. Vitus's dance?
- Did you ever have convulsions?
- Did you ever have anemia badly?
- Did you ever have dyspepsia?
- Did you ever have asthma or hay fever?
- Did you ever have a nervous breakdown?
- Have you ever been afraid of going insane?
- Has any of your family been insane epileptic or feeble minded?
- Has any of your family committed suicide?
- Has any of your family had a drug habit?
- Has any of your family been a drunkard?
- Can you stand pain quietly?
- Can you stand the sight of blood?
- Can you stand disgusting smells?
- Do you like outdoor life ¹

¹ Reproduced with permission from R. S. Woodworth *Personal Data Sheet* Chicago: C. H. Stoelting Company, 191.

These questions probed into the following areas

TABLE 1 Classification of Items in the Woodworth Psycho-neurotic Inventory

Physical symptoms pains weariness incoordinations	28
Adjustment with the environment	20
Fears worries	16
Unhappiness, unsocial and antisocial moods and conduct	16
Dreams fantasies sleep disturbance	10
Reactions to drink tobacco drugs sex	7
Mental symptoms	6
Vacillations	5
Compulsions	4
Questions about one's family	4
	116

SOURCE P. M. Symond *Diagnosing Personality and Character* New York
Appleton Century Crofts Inc. 1931 p. 178

Another test development that was initiated by wartime necessity was Scott's Man to Man Rating Scale also known as the Army Rating Scale (U.S. Army, 1919). Officers rated each other on a series of items grouped under five traits: physical qualities, intelligence, leadership, personal qualities and general value to the service.

The end of hostilities ushered in the beginning of the testing movement which has assumed tremendous proportions today. In 1920 Pressey published four tests under the name X-O Tests for Investigating the Emotions for adults and children. A short time thereafter Kohs (1922) introduced the Ethical Discrimination Test (1922) for children and adolescents. The six subtests or 'exercises' were designed to ascertain the subject's *comprehension of moral and ethical values and concepts*. Like the Pressey tests the individual revealed this knowledge by underlining a word selected from among alternatives to a key word or phrase. An example of this is

To steal is to borrow
 is not bad if the person is rich
 is all right if you really did not mean it
 is to do wrong to someone

The testee's moral judgment is probed in terms of the undelimited selections descriptive of his feeling about the key phrase viz. to steril in the above example. This idea was developed further by Schwesinger (1926) in his social ethical vocabulary test. He believed that children's social and ethical concepts could be tapped by association of words with descriptive phrases or words.

A type of projective test based on the principle that behavior is reflective of the individual's personality was contributed by Downey (1922). In this motor test the person carried out several tasks. The manner of performing these tasks Downey felt led to inferences regarding the testee's temperamental traits.

The first revision of the Woodworth PD Sheet was published in 1923 in collaboration with Mathews (1923). At the same time Conklin (1923) published a more limited adult personality testing device—Introversion-Extroversion in Terms of Interest. This was followed soon thereafter by a similar inventory for children by Marston (1925) with the one difference that the items were answered by parents or teachers who presumably were in a better position to give more valid data than the children themselves.

In chronological sequence the following tests appeared in the psychological literature for use in the evaluation of various aspects of personality.

1. F. H. Allport's North Carolina Rating Scale for Fundamental Traits (1924)

2. Laird's Colgate Mental Hygiene Personal Inventory I-2 Tests (1925) which were used with college students who responded by checking a point along a line which best described the subject's estimate of his self description for a given trait. The three overall systematic areas evaluated were psychasthenia, neurasthenia and schizophrenia. (The first two terms are no longer current in systematic psychiatry.) Laird also published his Personal Inventory C-2 (1925) as a measure of introversion tendency.

3. Heibreders Personal Traits Rating Scale (1927) which measured introversion and inferiority feelings. One interesting conclusion drawn from this study was that the notion of either-or

typology with regard to personality attributes could be discarded. Her findings gave strong support to the present concept that psychological qualities like many physical ones are distributed along a continuum for the population (see Symonds 1931 p 200). Another revision of the basic PD Sheet was the work of House (1927). The Mental Hygiene Inventory was designed to measure adult neurotic qualities.

Between 1928 and 1930 the following personality assessment tests were published:

1. Neymann and Kohlstedt's Test for Introversion Extroversion (1928). The Personality Rating Scale by the American Council on Education (1928) for college students.

2. The famous Hartshorne and May Tests of Honesty and Trustworthiness (1930). This series of testing conditions comes close to the situation type of evaluative procedures discussed in Part V.

3. Laird's Personality Inventory DI (1929). It was intended for industrial use in the selection of personality dimensions significant for leadership.

4. The Thurstone Personality Schedule (1930). This test is described by Symonds (1931 p 183) as a high point in the development of adjustment questionnaires.

5. The Behavior Rating Schedules by Haggerty, Olson, and Wickman (1930). These tests were designed for preschool and elementary school children to be used by teachers or others with sufficient knowledge to check the scale items appropriately. The child is rated for behavior problems common to children and for intellectual, physical, social, and emotional personality attributes.

6. The Almy and Sorenson (1930) Rating Scale for Teachers. This scale, standardized on 110 educational interns (practice teachers), attempts to obtain a picture of the potential educator's suitability for this work in terms of 20 traits considered to be important for success as a teacher.

The following representative tests of personality evaluation bridge the gap between the present and the developments introduced 25 years ago:

1. Allports' the Ascendancy-Submission Reaction Study (1928). A scale for measuring a single personality dimension; it is used to

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evaluate the individual's responsiveness in face-to-face (interpersonal) situations

2. *Willoughby's Emotional Maturity Scale (1931)* A modified approach is noted in this inventory in which the subject evaluates himself or another person. Sixty items describing different situations are given to the testee or rater for consideration.

3. *Bernreuter's Personality Inventory (1931)* The final test in this survey, it very easily links the past 20 years with the present. This questionnaire is made up of items from the inventories, schedules, and questionnaires devised by Woodworth, Allport, Laird, Thurstone, and others.

For the sake of completeness it must be indicated that the history of performance, situational, and projective techniques runs concurrently and is intertwined with the progress and developments in the paper and pencil method of personality assessment.

GENERAL CONSIDERATIONS IN MEASUREMENT PROBLEMS

Each time a psychological test is used in experimental situation has been set up. In personality evaluation this is precisely what is taking place. The testee is given a task to do in a standardized manner; his behavior in terms of his responses is observed and recorded in some way. The findings or test results are then utilized for making inferences about the causes of his behavior (psychodynamics). Further, more predictions may be made with regard to future responses in the same or similar situations. Essentially, therefore, testing is used to explore reasons for the individual's behavior and to determine what to expect in the future. A test which can accomplish both of these aims is a desirable test.

Psychology, like other scientific disciplines, is essentially concerned with the accuracy and refinement of its measuring techniques. Psychology, unlike other fields of inquiry, is faced with a complex and abstruse subject matter—the behavior of people—which lends itself less readily to analysis than the subject matter of other sciences. How can the psy

chologist develop the accuracy and refinement of his measuring devices so that the individual's test responses or behavior may be used more effectively for understanding predicting and controlling behavior? Perhaps part of the answer may be found in these three suggestions

1 Personality assessment may be advanced by defining its subject matter more satisfactorily. A particular trait is sufficiently definite to leave little room for disagreement among observers as to its nature. It is there to be seen and touched by all. Any measuring operation for the length of the trait can be repeated time and again anywhere in the world with results that are reliably identical within statistical limits.

2 The adequacy of measurement is enhanced by more accurate evaluative techniques and procedures. If definition in psychology offers difficulty, how much more confusing are the problems of constructing accurate measuring tools for vaguely defined subject matter? If this query can arise with reference to overt and observable behavior, how much less accurate is the assessment of covert and nonobservable activity (i.e. ideas, motives and attitudes)?²

3 Finally, the applied psychologist must demand a high level of carefulness in his application of the assessment tools. It is a continuing responsibility of psychologists to remember that no test is better than the person using it. There is little value in achieving a satisfactory definition and sharpening the measuring instrument only to have the tester reduce whatever benefits may be derived from the evaluation process.

THE DESIRABLE TEST

How can a test contribute to progress in measurement? By eliciting valid data consistently and by minimizing the influence of the tester's personal biases in evaluating and in interpreting the test findings. A useful measuring device there

²The problem of evaluation could certainly be simplified if physical physiological and neurological referents were available for complete observation.

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fore, should be valid, reliable, objective, and standardized. Validity refers to the extent to which a test measures that which it purports to measure. Reliability is a measure of the internal consistency of the test, i.e., the degree to which a test will yield similar results for a particular population. Objectivity has to do with the mechanics of test administration, response, and scoring. The major concern is to construct the test items so that examiner differences are minimal. A well-standardized test has carefully derived norms based on the population for whom the test has been designed. Each of these desirable qualities eliminates or minimizes an error: validity—constant error; reliability—chance, variable, or random error; objectivity—personal error; and standardization—error of interpretation.

The constant error of a test is its tendency to miss its mark continually, i.e., to fail to fulfill its stated purpose because of the presence of an unchanging factor responsible for this continued deviation. This is similar to the revolver which is consistently missing the bull's-eye of the target, assuming it is being fired by an expert marksman, because of some flaw that has been built into the rifling of the barrel. The chance, variable, or random error refers to those uncontrolled factors which influence a situation or observation in an irregular and inconstant manner. The expert marksman firing a revolver may miss the target because of a sudden gust of wind or an arm twitch which may deflect the bullet from its true path. The personal error refers to the influence of the tester's own prejudices as they enter into his administration of the test and scoring of the responses. Finally, the interpretation error is related to the tester's assigning meaning to test scores in an arbitrary manner rather than being guided by norms established on a satisfactory sampling population.

SUMMARY

This opening chapter presents definitions of commonly used terms, a brief history of the development of person-

ality tests, and some notions about an acceptable test. The task of evolving adequate definitions of the subject matter studied by the applied psychologist is far from being achieved. Much that needs to be known for a more satisfactory job remains on the periphery of definitive grasp.

The popular approach to understanding and describing human behavior permits such notions as 'he has the personality of a wet fish' and ascribing personality to the nice young man who goes about pushing chairs under ladies preparing to sit down. Offshoots of this method of describing people are such words as character, reputation, temperament, and mood, each holding a special meaning for the lay person as he uses them. The popular usage may be based on a single observation or upon a multiplicity of behavior segments. Character is commonly denoted in terms of good or bad, as is reputation, while temperament and mood are descriptions with emotionality as the central theme. Standing above all of the words at the apex is the all inclusive term *personality*.

The testing movement did not begin with the invention of paper and pencil. It originated in the interest of one individual in another and his ability to symbolize in some way an estimate of the other person or of himself. Ancient cultures and civilizations utilized techniques that are residually represented in the current vocabulary and in the pseudoscientific practices of astrology, numerology, horoscopy, palm reading, phrenology, and chiromancy. These arcane and speculative arts have a wide appeal for the populace even in this age of the scientist. Formal and objective modes of evaluation emerged from the welter of speculation and armchair rationalism. Too many questions remained unanswered for the curious investigator. Historically, the Bible is a rich source of recorded techniques for the evaluation of personality. Most are of the performance or situational variety—methods that are still used effectively today. The projective method was employed as a stimulus to phantasying—the signs or test data were always available for use, but what was lacking was a controlled study of the personal

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meanings of these perceptions and reports. Today the projective techniques are the most widely used devices for personality assessment.

Following the research of Darwin, Galton's interest turned to a study of individual differences by the questionnaire method. During the latter part of the nineteenth century scientifically designed experiments of personality dimensions evolved. The contributions of Wundt and his students in the psychological laboratory cannot be overlooked. Their work had an important impact on psychological experimentation and testing on the European continent and in the United States. The great impetus for personality assessment resulted from the pressure for testing the large number of men in the armed forces during World War I. Woodworth's Personality Data Sheet (or Psychoneurotic Inventory) was the first of its kind. Since the publication of this personality assessment tool the number and nature of evaluation devices have increased to the point of requiring approximately 226 pages of small print in Buros (1953) oversized book to discuss the publication, research and critique of personality tests from 1918 to 1951. Today personality evaluation is a big and important business which has proliferated into almost every phase of modern living.

2. GENERAL PROBLEMS IN PSYCHOMETRIC PERSONALITY TESTING TECHNIQUES: THE DESIRABLE TEST

ONE OF THE FIRST PROBLEMS THAT FACES THE PRACTICING psychologist is how to recognize a useful personality test. This chapter will consider the four qualities that are important in the selection of a particular instrument—validity, reliability, objectivity, and standardization. Each test will differ in the extent to which these desirable features can be built into it. The nature and the format of the final product, constructed within the framework of the test author's concepts, will tend to enhance one or more of these good qualities at the expense of the others. This is especially true in the comparison of paper and pencil tests with projection devices. The special problems of the latter will be considered in Chapter 8.

VALIDITY

This is a central problem in test construction and use. The generally accepted definition of validity is the extent to which a test measures that which it has been designed to measure. This definition directs attention to what the test has been designed to measure, the external criterion. Validity is not a unitary concept since it involves not only test construction but also the selection of sampling populations and the criteria with which the test must be compared if it

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outside standard such as psychiatric diagnosis or case history data treatment evaluation or some other acceptable criterion. The usefulness of test validity may also be expressed more popularly as the degree to which the psychologist can predict actual behavior from the test score(s) or responses.*

Unfortunately, ascertaining validity is not equally feasible for psychometric paper and pencil tests (i.e., inventories, questionnaires, or schedules) and for the projective techniques.

In the latter method of personality evaluation difficulties are posed by lack of agreement on the basic assumptions of some of the projective test procedures and on the nature of the outside criterion against which the test is to be measured.

Validity Evidence

It is appropriate to give brief consideration to the kinds of evidence extant in current test usage. Dressell (1950, p. 69) lists five approaches employed by test publishers and builders for presenting validity evidence:

1. No evidence
2. Expert opinion
3. Current practice
4. Statistical
5. Face validity (validity by assumption)

Psychologists invariably prefer statistical evidence as best meeting their need for a valid test. No evidence speaks for itself. Expert opinion and current practice are forms of validity by prestige and the publisher's persuasiveness. These are not to be preferred over the presentation of validity data as the correlation of test results to a criterion. This information will give a much clearer picture of the extent to which the test realizes the goal set for it by the test constructor.

*In essence this is the should or would problem that clinicians meet in daily practice. Does the client give a response in terms of how he feels he should behave or how he would actually respond to the situation posed by the personality test item(s)?

RELIABILITY

Reliability is a measure of the internal consistency of a test, i.e. the degree to which a test will yield similar results on retest. The criterion for reliability is an internal one with retest or equivalent form test as the most commonly used methods for its determination. A reliable test eliminates or minimizes the variable, chance, or random error. A test that is subject to chance variations will yield significantly dissimilar scores from one testing to the next. When this condition holds, the test interpreter is not in a position to state with any degree of confidence which one of the two scores has meaning for the particular testee.

Kinds of Reliability in Personality Evaluation

The internal consistency of a test is expressed as a coefficient of correlation. There are several methods of arriving at this statistic.

1 *The test retest method* is employed most often and requires that the subject(s) take the same test on two separate occasions. This introduces the issue of the influence of recall of questions and answers from one testing to the next. This does not necessarily indicate that identical responses on test and retest are due only to recall. It is entirely possible that identical or similar replies disclose a basic consistency in personality.

2 *Equivalent form test* reliability is one means of circumventing the objections incurred in taking the same test twice. It requires two equivalent but different forms of the test. The major difficulty is to obtain two forms or two sets of questions which are not identical but which will elicit the same information in each instance for a comparison of the scores or responses. Both forms must be administered and scored in the same manner.⁴ Whenever this can be done it is considered the best method of reliability assessment.

⁴ The equivalent form method is used most frequently in connection with intelligence testing. In this particular area the number of parallel tests is far greater than in other phases of evaluation.

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3 The *split half method* is another means of establishing the reliability of a personality measuring device. This method is less desirable for personality questionnaires because it requires the comparison of responses to odd and even numbered items or the first half with the second half of the questionnaire. This assumes a similarity in the nature of the paired test items. In an intelligence test alternate items increase in difficulty from first to last making split half reliability an accepted procedure. In a personality test however this does not hold since the *difficulty* of items is not involved. Unless almost identical items are paired or repeated in odd-even sequence or in the second half in exactly the same order as in the first half of the inventory the split half method is valueless.

The problem of personality test reliability is even more complex with projective techniques than with paper and pencil psychometric devices. The split half method of reliability measurement is inapplicable to projective tests like the Rorschach Inkblot Test. The test retest method raises the issue of memory effects since similar or identical responses to inkblots or pictures may be due to recall and/or to the basic consistency in personality. On the other hand differences in test responses may be attributed to variances in test conditions and/or to changes in personality brought about by the events that transpired between test and retest periods. The reliability of the projective procedures is still an open question because the meaning of internal consistency has not been clarified (Allen 1953).

OBJECTIVITY

The less objective test is usually an informal device with wide leeway in administration responsiveness and scoring. Two factors contribute to test objectivity: the method of presenting the individual items and the manner of responding.

The essay type test lends itself most readily to reduced objectivity. While the directions may be fairly well struc-

tured for all subjects the manner of responding permits such wide latitude in content that rigid scoring guides are not feasible. This encourages personal bias to enter into the scoring. The highly structured test such as a true false test yields a high degree of consistency in individual items and total test scores because of restricted responsiveness. As a matter of fact a completely objective test can be machine scored thus entirely eliminating the tester's personal error in evaluating responses.

Objectivity in Projective Tests

Objectivity in the projective techniques is an unsettled issue. Psychologists who favor leaving the projective tests as they are contend that objective projective techniques would require an increase in the structure and control of the stimuli with consequent loss or constriction of the testee's spontaneity and freedom of responsiveness (Allen 1953). This in turn would militate against the real purpose of the projective test to reveal thought content that could yield greater insight into the individual's behavioral dynamics. Guirdham (1937) and Allen (1954) believe that objectification of the Rorschach Inkblot Test would eventuate in a test centered rather than a person-centered approach. A parallel situation exists with the Thematic Apperception Test in which some clinical psychologists call for picture story interpretation with a minimum of attention to the formal aspects of the scoring (Wyatt 1947). A more simplified method of story analysis proposed by Stein (1918) permits an objective analysis of the protocol yet does not sacrifice the spontaneous nature of the stories.

On the other hand there are those who insist upon the almost complete objectification of the projective techniques. Harrower and Steiner (1951) exemplify the ultimate in objectivity of the Rorschach test in the group and multiple choice procedures. The subject in this approach need do no more than check off responses from a printed list of alternatives for each of the 10 plates. The tester adds up the

3. GENERAL PROBLEMS IN PSYCHOMETRIC PERSONALITY TESTING TECHNIQUES: TEST CONSTRUCTION

TESTING WITH THE VARIOUS DEVICES EXTANT TODAY is a serious undertaking not to be treated lightly either by the client or by the psychologist. Since important decisions may be made on the basis of test data, a professional attitude must be maintained. This is one in which the psychologist uses his instruments to achieve a purpose consonant with the welfare of the client. To approach this professionally ideal goal, it is essential that the psychologist have the best tools available. This involves such problems as adequacy of defining the dimension(s) being measured, building tests of maximal accuracy, and assuring utmost carefulness by the tester. The present chapter discusses some of the basic concepts involved in the construction of personality tests.

Mursell (1917) indicates that personality and behavior analysis (and subsequent personality test construction) may be approached from three standpoints: empirical data, defined categories of systematic psychology and psychiatry, and subjective impressions. It should be clear, however, that these are not mutually exclusive approaches but that they constitute an arbitrary system which makes discussion more convenient.

EMPIRICALLY BASED TESTS

Any person who deals with the problems of people on a professional level soon learns to classify, in a general way,

the variety of difficulties presented by these people. A clustering becomes evident in the qualitative labels that describe these problems. For example, in the clinician's experiences it is quite usual to discover during interviews that many specific personal difficulties revolve around conflicts and ambivalent feelings engendered in the home, or health problems may interfere with social ties and personal happiness, or real and/or imagined anxieties, fears, and frustrations may impair intellectual and emotional adjustment. This method of collecting personal information may be replicated by questionnaires in which people are given an opportunity to accept or to reject statements regarding their reactions to various aspects of their own everyday living. Brought together into printed form they comprise the Adjustment Inventory (H. M. Bell, 1938). Mursell (1947, p. 245) describes this technique as " . . . the use of self rating items centering about concepts empirically isolated and defined." There is an a priori assumption that these psychological dimensions can be considered in isolation. Actually, however, it is difficult to conceive of maladjustment as being confined to only one aspect of living. That this is so may be seen in the following significant intercorrelation among adjustment areas reported by H. M. Bell:

TABLE 2 Intercorrelations of Adjustment Inventory Dimensions

	Health	Emotional	Occupational
Home	26	35	22
Health		50	
Social		51	
Emotional			35

SOURCE: Reprinted from p. 4 of *The Adjustment Inventory Adult Form* by H. M. Bell with the permission of the publishers, Stanford University Press. Copyright 1934 & 1938 by the Board of Trustees of Leland Stanford Junior University.

If discrete, unrelated adjustment features were being measured by this questionnaire, their intercorrelations would be closer to zero to indicate very little or no relationship among

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the adjustment areas. This weakness is overcome to some extent by having one statement contribute in varying degrees to more than one dimension. For example, in the Bernreuter Personality Inventory (1935) item 51, *Are your feelings easily hurt?* contributes seven points toward the total emotional instability (B1 N) score if it is answered Yes. A negative response, indicating that feelings are not easily hurt, reduces the score by four negative points in the direction of being self-confident and adjusted to the environment. Item 21, *Are you troubled with shyness?* contributes as follows to three dimensions measured by the Personality Inventory:

Response	B1 Neurotic Instability	B4 Dominance Submission	F1 Self Confidence
Yes	6	-4	8
No	-7	6	-5

Thus a positive or Yes answer to the question, *Are you troubled with shyness?* adds six points toward the total B1 Neurotic Instability score (an emotionally unstable person has a high positive score), lowers the overall B4 Dominance Submission score in the direction of submissiveness and greatly increases the F1 Self Confidence total (high positive score is indicative of hampering self-consciousness and inferiority feelings). Conversely, a No answer, denying shyness, decreases the B1 N score in the direction of emotional stability, raises the B4 D total to give a picture of dominance in face-to-face situations, and shows increased self-confidence by contributing to a lower positive or higher negative F1 C score. At best the quantitative interrelationships among the scores for individual test items can reveal only part of the story of the total functioning person. Simple additive statements are essentially ineffective for describing human behavior and its causes. Assigning relative weighted values to specific statements of empirically identified personality descriptions such as illustrated above is one means of compensating for this inadequacy.

TESTS OF DEFINED CATEGORIES

The second point of view for test construction is to set up a standardization group from definitely defined segments of the population. In the field of personality appraisal this means that the test constructor seeks his criterion population from among psychologically or psychiatrically classified groups, viz, normal, neurotic, psychotic, and subcategories within each of these nosological bands. One such instrument of personality evaluation, the Minnesota Multiphasic Personality Inventory (MMPI) (Hathaway and Meehl, 1951), uses the response patterns of *psychiatrically* defined groups of patients as the criteria for the distribution of the test responses made by subsequent testees.

The approach of *systematic psychology* is illustrated by the categories used in the California Test of Personality (Teigs, Clark, and Thorpe, 1942). The components of this device describe testees in dynamic behavioral terms: 'self reliance,' 'freedom from withdrawing tendencies,' 'social skills,' and "community relations," to name four of the fifteen psychologically defined components.

In the above two approaches to personality test construction the standardization populations had been previously classified in accordance with some psychiatrically and psychologically defined system. Then responses to the test items furnished the norms for subsequent subjects. The responses of each subgroup (so called in accordance with the prede-termined subclasses) were subjected to statistical analysis and the norms were set up on the basis of significant differentiations among the subgroups.

SUBJECTIVE IMPRESSION TESTS

The method of subjective impression has much in common with the first two but introduces a higher degree of subjectivity. Ash's paper on the reliability of psychiatric diagnoses, published in 1919, throws an interesting side

light on the value of this validity criterion) In this approach raters or judges make evaluative discriminations on various personality dimensions for a group of subjects These subjects then give their responses to the test being constructed (usually a large number of items) They serve as the standardization population The raters' judgments are the outside criterion for the validation of the test responses Stogdill (1917) secured follow up data for the Behavior Cards by having the committing agencies give information regarding the adjustment of the delinquent child in the community The AS Reaction Study (Allport and Allport 1939) is another example of norms set up on the basis of judgments made by raters giving their impressions of ratees However Allport and Allport urge caution in overdependence on this method of obtaining validity correlations

A fourth approach that is becoming more prominent is the method of factor analysis In this procedure it is usual to subject already existing personality tests to factor analysis From this manipulation factors or underlying unities emerge which represent clusters of items each of which presumes to measure different aspects of personality The test constructor either selects the more critical items in each cluster for a new test or writes new items using the cluster of items in each factor as a guide Rosenzweig (1919) suggests that factor analysis is not a firsthand means of evaluating personality but is more properly a technique for reducing a mass of data to a few basic formulations It then becomes possible to handle observations and descriptions in terms of these few basic variables or factors These essential minima for classifying behavioral data i.e. the factors themselves are not derived directly from the raw observations but from the interpretations of this raw data from tests questionnaires inventories etc An illustration of this is the Thurstone Temperament Schedule (1950) which resulted from a refactor analysis of the Guilford (1948 1949) personality inventories reducing them from thirteen to seven factors The logic behind this particular procedure leads to the conclusion that the criterion is not an external one but one that is inherent in the nature of

the items. A change of items may rearrange or alter factor entities. Thurstone (1951) carefully indicates that no assumptions are made with regard to the nature and origin of factors; they are always a function of and are derived from the experimentally obtained correlations. This approach utilizes in one way or another the previous three procedures to construct a new personality assessment device.

VARIETIES OF ADMINISTRATION

With regard to the paper and pencil personality tests, administration is simple. Usually the directions for taking the test are printed on the front page as in the MMPI booklet and the California Test of Personality, two representative self-report questionnaire inventories. In the former, using the group form, the testee indicates a Yes or No response on an IBM answer sheet. In the latter, the subject encircles Yes or No as either one applies to the interpretation of the question. The Haggerty-Olson-Wickman Behavior Rating Schedule (1930) is not administered directly to a subject. Another person, i.e., judge or rater who is presumed to have sufficient knowledge of the ratee, is asked to evaluate or rate the subject on the various dimensions of the scale. The assessment is accomplished by checking off, along a dimension continuum, the best judgment estimated to describe the person.

Another mode of administration, especially for individual tests (as contrasted with group tests), is to have the subject sort cards into piles to indicate responses. In the individual form of the MMPI, 550 cards, each with a single statement printed thereon, are distributed into three piles: Yes, No, or Cannot Say. The Behavior Cards test is similarly handled except that the testee has only two choices: Yes or No.

SCORING TECHNIQUES

The greater number of psychometric personality tests are hand and/or machine scored. The Bernreuter Personality Inventory may be hand scored with the use of eighteen keys

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three for each of the six personality traits. An IBM answer sheet for machine scoring is also available. Two other scoring techniques for this test are the Walton (1947) and the Western Psychological Services (1951) procedures designed to reduce scoring time. However, the last two methods suggest that the chances for error creeping in are enhanced.

Other tests are scored by counting the encircled selections, viz. the Behavior Cards are scored by simply totaling the Yes responses. The Edwards Personal Preference Schedule (1954) calls for adding encircled A and B selections for the individual items. Profiling is currently part of the means of expressing the score(s) for many inventories. The hand and machine scoring procedures increase test objectivity and practically eliminate the personal error that is bound to creep into the less rigidly scored personality tests such as the Rorschach Inkblot or the Sentence Completion Test.

NORMS

Most if not all of the paper and pencil personality tests have norms established on the basis of defined standardization populations. These sampling populations are drawn from a variety of universes (total populations) for which the test is designed. The sampling group for the empirically based tests, for example, is drawn from persons seen in counseling guidance and diagnostic situations. Psychiatrically defined persons may be drawn into a standardization population and divided into appropriate subgroups—the technique used in establishing MMPI norms. Subjective impressions form the basis for setting up normative subclasses of subjects in rating scales and in a test such as the Behavior Cards. With regard to the factorial approach, the correlations among test items determine the basic variables around which the norms are built. In all of these a normal or control group is usually part of the standardization design.

In some instances the quantitative scores are translated into specific qualitative categories with no overlapping. Table 3 illustrates this.

TABLE 3 Bell Adjustment Inventory Norms for Home Adjustment High School and College Students

High School Score Range		Description	College Score Range	
Men	Women		Men	Women
0-1	0-2	Excellent	0-1	0-1
2-4	3-5	Good	2-4	2-4
5-9	6-13	Average	5-9	5-9
10-16	14-20	Unsatisfactory	10-16	10-15
+16	+20	Very unsatisfactory	+16	+15

SOURCE Reprinted from Table I p 2 of *The Adjustment Inventory Student Form* by H M Bell with the permission of the publishers Stanford University Press Copyright 1934 & 1938 by the Board of Trustees of Leland Stanford Junior University

Not all of the norms are thus definitive The Behavior Cards are presented in Table 4

TABLE 4 Average Scores for the Behavior Cards

Subjects	Number	Average Score	Standard Deviation
		150 cards	150 cards
Delinquent boys	200	41.5	17.1
Schoolboys	50	24.8	15.4
Boy Scouts	25	20.6	10.6
Delinquent girls	50	28.2	15.3

SOURCE R M Stogdill *Manual of Directions Behavior Cards* Columbus Ohio H L Hedrick 1947, 2nd edition Table I p 6

The degree of overlap and the increased difficulty of making an appropriate classification are apparent from the large standard deviations in Table 4. A raw score of 44 places a boy at the 90th percentile of the normal category and at the 60th percentile of the delinquent band. Any classification of a single boy necessitates caution unless the obtained raw score is at either of the extremes where overlapping of scores for the different categories does not exist. Other considerations involved in setting up and selecting satisfactory norms include age, sex, and academic status.

LIMITATIONS OF PAPER AND PENCIL PERSONALITY TESTS

No test can be better than the person who uses it. This imposes a responsibility on the user to be aware of the limits to inferences from test data. The greater possibility of abuse lies in interpreting test responses beyond the conceptual framework of the test constructor's basic rationale. Greene (1952) and Mursell (1947) present the overall cautions to which the test user should be sensitive as he works with test results. Greene suggests that test results should be considered as informational guides to decision making and not as absolute answers. In other words, the client-centered psychologist must look upon test data as additional, but partial, evidence in the total picture.

A second pitfall for the inattentive examiner lies in the tendency to confuse test items with real life situations. For example, in the California Test of Personality (Thorpe, Clark, and Tiegs, 1942) the subject is asked, "Is it hard for you to continue with your work when it becomes difficult?" The reply is either Yes or No. The fact that the testee gives one or the other response in the psychologist's office is no guarantee that the client will or will not give up in a real life situation when this alternative presents itself. The situation and the meaning of the task to the subject are significant influences in the decision to continue or to discontinue work. In short, there may be quite a discrepancy between the testee's reply to a question on a test and his behavior under nontest conditions. This is extremely important in test interpretation and urges restraint with regard to absolute predictions. At best the interpreter should restrict his inferences to pointing out behavioral possibilities.

A third and rather marked weakness of these tests is the tendency to express final results as neat numbers—such as a T score or a percentile rating. From the point of view of an ultimate test product this may be satisfying. However, the psychologist should be more concerned with the client than

with the test. This means that the examiner should be interested in *how* and *why* the final numerical expression is achieved. The focus must be on the thought processes, the motivating factors, the perceptual activities and the emotional components that are involved as the behaving person comes to grips with the test stimuli. Very little, if any, of these nontestable factors are reflected in a final score. Because of the nature of these subtle but significantly dynamic factors, a test cannot reveal many processes which could help the examiner understand the testee more completely.

Mursell (1947) emphasizes the failure of tests to disclose the subject's capacity and ability to deal with difficult situations. The complexities of translating real life activities into practicable test items render many life situations unsuitable for formal testing. Activities which involve making judgment and decisions in the face of the various stresses that are part of everyday living cannot be duplicated in a test. How can a psychologist ascertain a stateside soldier's potential reactions under combat conditions in the comparative safety of a simulated combat course?

Further restrictions to be kept in mind by the test interpreter include the fakability of tests, the invalid assumption of testee insight, the rigidity of responsiveness and the semantic differences inherent in the individual's interpretation of words. These limitations are especially applicable to personality questionnaires. It can be shown that the testee is capable of influencing the final score of a personality inventory in keeping with a predetermined set to make a good or poor picture. An applicant for appointment as vice president of an organization could undoubtedly slant responses to give a picture of emotional stability and mature personal adjustment in all dimensions probed by the test. On the other hand, the author while a clinical psychologist in the armed forces received personality inventory responses that were inconsistent with the personality picture obtained with the Rorschach Inkblot Test or the Thematic Apperception Test. Investigation strongly suggested deliberate attempts at deception in the questionnaire test to serve a definite pur-

pose. Efforts to cope with the problem of faking test responses have met with partial success in the MMPI and the Edwards Personal Preference Schedule. The former has its validity scales as indicators of gross deception and faulty responsiveness regardless of whether or not these are deliberate. The Edwards Personal Preference Schedule uses the forced-choice technique to reduce intentional responsiveness in one direction. A desirable item is paired with a desirable item and an undesirable with an undesirable. In this way the testee cannot always select only those responses which will build a one-sided (and motivated) personality picture. Moreover, a consistency score in this schedule measures the extent of contradictions in the responses.

Another significant limitation of paper-and-pencil personality tests is the invalid assumption on the part of test users that subjects bring into the testing situation complete insight into their own motivations, problems, and behavior. It is important, of course, to know how the testee interprets the various phenomena depicted in the inventory items. Attitudes toward the family constellation, toward social institutions, toward other persons, etc., are valuable to the psychologist; but to regard the client's responses as the "truth" is naïve. It is necessary for the tester to interpret the responses carefully, to avoid going off the deep end because of too literal reliance on the credibility of the responses.

The usefulness of the questionnaire-type test is further circumscribed by the rigidity with which the client may reply to the items. Most tests require the subject to encircle, underline, distribute, or otherwise select one of three answers, Yes, No, or Undecided (usually symbolized by a ?). This presumes that the questions can be answered definitively. Test constructors are aware of the difficulties inherent in this limited mode of responding to personal probing questions. However, the practical problems of group test administration and scoring leave little room for any other procedure.

A final limitation is the matter of semantics. It cannot be assumed that all words have the same meanings for all per-

sons Such terms as "frequently, 'often' and 'almost' are temporal descriptions of varying duration for different testees and for the same person from time to time and from one situation to the next An individual suffering with a headache once or twice a year may consider two headaches in one week as being 'often,' while the migrainous individual who has only two attacks in one week may feel relieved at the 'infrequency' of his discomfort for that week The use of relative terms serves only to increase the difficulty of interpretation both by the testee attempting to respond and by the psychologist trying to make verifiable and valid inferences

OVERVIEW OF PERSONALITY INVENTORIES

The fundamental reason for personality assessment is to obtain a picture of the functioning individual, i.e., how he perceives, organizes, and reacts to the biological, social, and physical forces in his life space To attain this goal the inventory method must tap as many functional areas as are consonant with the particular scope of the individual technique, i.e., some tests probe deeply into one dimension (see Chapter 4) while others tap several qualities of the personality (see Chapter 6).

Ellis (1953) surveyed a number of reports with regard to the efficiency of personality inventories His interpretation of their effectiveness makes the following points

- 1 Inventories do not measure independent personality traits as claimed in the test manuals This is shown by the high within intercorrelations of the subscales of the individual questionnaires

- 2 Intercorrelations among 26 inventories claiming to measure the same traits show 12 significantly high correlations while 14 interrelate poorly Apparently in the latter inventories similarly named traits do not assay the same dimensions

- 3 A comparison of inventory scores with Rorschach Inkblot Test indicates a low correlation in 10 of the 12 studies reported

- 4 Falsibility on the paper and pencil tests is firmly established, in 22 of the 25 reports of investigations

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5 Table 5 summarizes the discriminative value of personality inventories in a variety of situations

TABLE 5 Significant Discriminations Found in Research Studies with Personality Inventories 1947 to 1951

Discriminations Tested	Number of Studies in Which Significant Discriminations Were Found	Number of Studies in Which No Significant Discriminations Were Found	Total Number of Studies
Inventory scores vs diagnostic examinations			
Neuropsychiatric conditions	58	26	84
Psychosomatic conditions	11	2	13
Delinquent criminal and psychopathic behavior	15	13	28
Alcoholism	6	1	7
Predicting success in treatment	24	10	34
TOTAL	114	52	166
Inventory scores vs personality ratings by associates instructors or counselors			
Personality ratings	8	8	16
Sociometric ratings	5	5	10
TOTAL	13	13	26
Inventory scores vs behavioral characteristics			
Extent of social participation	6	3	9
Leadership success	4	1	5
Propensity to remain healthy	5	5	10
Success in courtship and marriage	3	2	5
Tendency to become a sexual deviant	2	1	3
Tendency to have a favorable self concept	5	2	7
Extrasensory perception ability	2	2	4
Success at motor tasks	7	3	10
Tendency to take pronounced attitudes on controversial questions	4	3	7
Miscellaneous behavioral characteristics	15	19	34
TOTAL	53	41	94

TABLE 5 (Continued)

Discriminations Tested	Number of Studies in Which Significant Discrimina- tions Were Found	Number of Studies in Which No Significant Discrimina- tions Were Found	Total Number of Studies
Inventory scores vs vocational and academic test and performance results			
Tendency to have specific vocational interests	11	5	16
Membership in different vocational groups	12	7	19
Success in actual vocational performance	18	23	41
Success in academic achievement	4	21	25
TOTAL	45	56	101
Inventory scores vs group differences			
Intellectual groups	12	14	26
Educational groups	2	2	4
Age groups	6	1	7
Sex groups	13	4	17
Socioeconomic groups	3	7	10
Ethnic groups	5	0	5
Marriage and family groups	5	5	10
Disabled and ill groups	3	7	10
College groups	6	1	7
Regional and national groups	2	2	4
Religious groups	2	2	4
Veterans groups	1	1	2
Miscellaneous groups	5	1	6
TOTAL	65	47	112
GRAND TOTAL	290	209	499

SOURCE A Ellis Recent research with personality inventories, *J Consult Psychol*, 1953 17 45-49 Table 1 p 40

It may be seen from Table 5 that personality inventories vary in their usefulness to psychologists. For diagnostic purposes the inventories differentiate fairly well among several psychiatric categories but not to the same degree of effec-

tiveness. The relationships between inventory scores and other features such as behavioral characteristics, ratings by others, vocational and academic test and performance results, and differences among various groups (age, sex, intelligence, education, etc.) are poor. The preceding holds true for inventories in general. Ellis (1953, p. 48) offers this interesting summary statement: "It was pointed out that when these inventories are most effectively used, they tend to become equally as time consuming as alternative psychodiagnostic procedures, such as interviewing and the use of projective techniques, that seem to be more clinically incisive and valuable."

Calvin and McConnell (1953) disagree with Ellis' conclusions on the usefulness of personality inventories. They point out that despite high intercorrelations between so-called independent traits there is some percentage of the variance not covered by the correlation, and therefore the subscales do measure some qualities not held in common by the subscales. They criticize Ellis' criticism of the low agreement among tests by emphasizing that it is poor test procedure to use one inventory as a validity criterion for another. This is especially so when using the projective technique for ascertaining relationships with personality inventories. Both kinds of techniques (paper-and-pencil and projective) are built on different rationales and therefore are not expected to relate highly with each other. The fakability weakness is answered by Calvin and McConnell by citing evidence that in the MMPI such faking is easily detected. While this may be true for the MMPI, there is no denying the fact that motivation can influence to a significant degree responsiveness on other questionnaires such as the Personality Inventory or the Adjustment Inventory.

There is no need to find a middle ground between the pessimism of Ellis and the optimism of Calvin and McConnell. The answer must be sought in intensive work with individual inventories and not by lumping together all of the tests, as did Ellis, and making inferences therefrom. A close study of Ellis' article reveals that the generalizations

only superficially hide the fact that some of the individual inventories do fulfill their stated purpose. Calvin and McConnell on the other hand seek to refute Ellis' claims by citing research studies on only one inventory, the MMPI. This selected sampling shows that the test discriminates in many of the categories cited by Ellis and presented in Table 5. But this cannot be used as evidence for the efficiency of other paper and pencil personality tests.

SUMMARY

It is interesting and useful to think about the directions in which this type of testing should move if their advantages are to be enhanced and their disadvantages reduced. The most important area for development is the matter of validity criteria for the test items. Of this Kuder (1954, p. 265) writes: "We cannot expect the set of items assembled on the first or second attempt to be particularly well balanced or to be the most efficient possible for the time required. A series of analyses and revisions is almost inevitable. This is a call for constant collection of data and changes in items and norms with the additional information based on increased population and/or representative subgroups within the universe. Validity might also be improved if items were drawn from practical life instances and worded so as to have one specific meaning." Loevinger (1955) suggests extremely objective test items "to the extreme of dichotomously scored items" (p. 15). This should also increase reliability since there would be less perceptual distortion under ordinary stress.

The Edwards Personal Preference Schedule (1954) is an example of the movement in the direction of minimizing the influence of social desirability in test responsiveness. This is accomplished by the forced-choice technique in which items of equal weight in the same direction are paired, i.e., the subject must choose between one of two socially desirable items or one of two undesirable items. This would tend to reduce faking.

4. SINGLE-TRAIT PERSONALITY INVENTORIES AND SCALES

EACH PERSONALITY QUESTIONNAIRE DISCUSSED IN this and the following chapter has been designed to measure a single personality dimension. This is in contrast to those inventories which encompass more than one attribute. The particular advantage of the single trait test is its feasibility for deep probing along a single phase of personality. In some situations it might be important to have more information with regard to one (artificially) extracted personality attribute to supplement data obtained by a multidimensional personality test or from an interview. The most dangerous pitfall is the assumption that personality, as a generic term for the functioning individual, may be so fractionated as to yield to one dimension analysis.

The implication in each of these unitrait devices is that the particular dimension can be measured along a continuum from least to most. Some indicate this by setting up a bipolar description in the title of the test, viz., the Ascendancy Submission Reaction Study. Other tests are similar in import and design but the bipolarity is not indicated in the title, e.g. Annoyances Test.

For convenience of discussion the tests in this and the following chapter will be presented in alphabetical order. Data regarding purpose, validity, reliability, objectivity, and standardization will be given insofar as this information is available in the manuals and subsequent reports in the literature. Where the name of a publisher is omitted the as

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There are fundamental conditions which a good personality test must meet. The problems of validity criteria, administration, scoring techniques, and setting up norms have been presented. The responsibility for developments, reporting of additional data, and insistence upon revision of norms must be shared by the test user and the test author or publisher.

PART II

The Psychometric Method

sumption is that the author is the distributor, or it has not been formally printed. Time limits are not set as part of personality test instructions. However, some inventories encourage spontaneous responsiveness.

ANNOYANCES TEST

Cason (1930a) collected 21,000 annoyances from various sources. These he classified into five groups: human behavior, nonhuman things and activities (exclusive of clothes), clothes and manner of dress, alterable physical characteristics of people, and persisting physical characteristics of people. Over one half, or 57 percent, of the annoyances reported centered about human behavior. These were reduced to 507 and then divided into an A list of 239 and a B-list of 268 items. Subjects of all ages were asked to rate each annoyance on a scale of values from 3, extremely annoying, to 0, not annoying, and an X if the subject had not been in the situation. Six hundred and twenty five subjects graded the A-list and 378 worked on the B-list. Thus norms in terms of the frequency with which each annoyance was chosen as such by these groups were obtained. In addition, tentative mean annoyance expectancies were established for male and female subjects in four age groups. The final test form, published by the C. H. Stoelting Company, contained 217 items. The norms were separated into male, female, and age groups from 10 to 90 years.

The directions require the subject to read each statement and to grade each for degree of annoyance. Sample items are (Cason, 1930b, p. 226)

- () 2 A person behaving in an affected manner.
- () 30 A person belching
- () 217 To see or hear the obviously false teeth of a person

The degree of annoyance is written in the parentheses. The final (or average) score is obtained by summing all of the individual numerical ratings assigned to the items by the testee.

and averaging this total in accordance with a specific formula

There has been no reference to this test in the *Psychological Abstracts* since 1915. An examination of the two publications by Cason (1930a, b) shows no statistical evidence for validity and reliability. This test is useful though for helping to pinpoint the irritations of a person who seems to be easily annoyed by the events of everyday living. Cason's (1930c) Chapter IV of the monograph *Common Annoyances: A Psychological Study of Everyday Aversions and Irritations* analyzes in detail the meaning of each annoyance for the person who selects it as a source of irritation. The following is an example of Cason's interpretation of a particular annoyance item:

(2) *A person behaving in an affected manner*

This insincere person is probably trying to appear superior in intellect and taste by attracting attention to himself. He may have an inner conflict over the way he is generally received and is not giving too much attention to the kind of impression that he will make. He thinks he can conceal his inferiorities from you and make you think he is more important than he really is. Your ego may be affected by the insinuation that you do not have enough insight to appreciate the real nature and meaning of his unnatural behavior. (p. 219)

A particularly good area of application is in clinical psychology wherein it is essential to focus on causes of irritation which keep the patient upset. It would also have value as a projective means of eliciting personal attitudes for further exploration. It is interesting to note that the basic concept of this test has been incorporated into a social relationship test in which the subject ranks 10 frequently encountered annoyances. Thus, ability to identify with a social group is measured by the congruence of reacting to annoyances.

ANXIETY SCALE

This test was derived by J. A. Taylor (1953) from 200 items of the MMPI. Sixty-five of these judged by five clinical psychologists as significant of manifest or overt anxiety were

imbedded among 135 buffer statements and submitted to 352 students. After several changes, 50 items emerged as most discriminative of an anxiety state. These were distributed among 175 statements from the K, L, and F scales of the MMPI and Wesley Rigidity Scale (1950). Taylor called this the Biographical Inventory but popular usage has given this test the titles: Taylor Anxiety Scale and the Manifest Anxiety Scale.

This scale was administered to 2,172 university students and 683 servicemen. The internal consistency, or reliability, for this version of the test yielded an r (coefficient of correlation) of .89 for test-retest after three weeks; the same coefficient after five months was .82; longer intervals between test and retest gave an r of .81. The correlation between these 50 key items in the Anxiety Scale format and in their usual places in the MMPI was .68. Evidently the context within which the 50 items were imbedded influenced the responses thereto. The present form of the scale has a slight revision in the wording of 28 items with little loss in effectiveness.

The test was given to 103 neurotic and psychotic patients undergoing psychiatric treatment. The medians for the presumed normal and mixed psychiatric groups showed dramatic differences: 13+ for the normals and approximately 34 for the psychiatric patients. The median score of the mentally ill group equaled or exceeded 98.8 percent of the scores obtained by the normal group. Taylor concluded (1953, p. 290): "On the assumption that psychiatric patients will tend to exhibit more manifest anxiety symptoms (as determined by direct observation) than do normal individuals, this difference between the two groups appears to indicate that there is some relationship between the anxiety-scale scores and clinical observation of manifest anxiety."

This test utilizes the approaches of systematic psychiatry and empirical observation. It originated in a need for selecting anxiety-prone subjects for psychology laboratory experiments but was taken out of the restricted experimental laboratory by clinical psychologists seeking a short and useful screening tool for detecting anxiety.

Eriksen and Davids (1955) report high correlations between the Anxiety Scale and the hysteria and psychasthenia scales of the MMPI r s of .92 and .78 respectively. These findings have doubtful value since the scale is being correlated with parts of the instrument from which it has been derived. It is tantamount to using a test to validate itself. J. D. Matarazzo (1955) and R. G. Matarazzo (1955) also indicate significant correlations with several MMPI scales. Davids and Eriksen (1955) find that high Taylor Anxiety Scale scores go with a greater degree of anxiety ideation in word association. These are a few of the favorable studies with this test.

The Anxiety Scale is a self-administering test for use with college and adult groups. The score is obtained by adding up the number of significant key items marked True or False. The scores may range from 0 to 50; the higher score indicates greater anxiety proneness. Some of the key items are (p. 288)

- | | | | |
|---|---|-----|---|
| T | F | 5 | I am often sick to my stomach |
| T | F | 7 | I am about as nervous as other people |
| T | F | 13 | I work under a great deal of strain |
| T | F | 187 | I don't like to face a difficulty or make an important decision |

The major needs are (1) validity data that is more rigidly controlled in terms of defined groups and meaningful criteria; (2) reliability information under conditions similar to the above; (3) more meaningful norms in terms of degrees of anxiety involvement; and (4) separate norms for psychologically defined populations.

In its present form the scale should be used cautiously. It is still an experimental instrument requiring basic validation.

ASCENDANCE SUBMISSION REACTION STUDY

This test and its revision is published by the Houghton Mifflin Company. It consists of a number of life situations to which the subject reacts in one of alternative modes pre-

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Allport and Allport (1939) indicate that this test is useful in several areas for self knowledge so that the individual could compare himself with others (not all persons can handle this) in vocational guidance in terms of how an individual can cope with the demands of various kinds of occupations and for selection and placement in industry. *Psychological Abstracts* lists no references for this test for the decade from 1915 to 1955.

BEHAVIOR CARDS

This evaluative technique stems from Stogdill's (1947) search for a method of interviewing delinquent children. In its present form the tester sorts 150 cards into two boxes, Yes and No. The cards sample attitudes in 18 areas important in the behavioral and psychological reactions of the delinquent child (see Table 6).

TABLE 6 Significant Areas of the Behavior Cards

Area Probed	No. of Items
Feels picked on	9
Anger disobedience	7
School difficulties	8
Stays away from school	10
Truancy from school	4
Lies	4
Fights aggressive	12
Inadequate companions	12
Delinquent companions	12
Stealing	9
Obscenity	5
Sex experience	8
In court	2
Robbery	3
Smokes drinks	5
Set fires	2
Fears worries	14
Home unsatisfactory	24
	150

Source: R. M. Stogdill, *The Behavior Record Sheet*. New York, The Psychological Corporation, 1941, p. 2.

The significant items are those in the Yes pile the sum of these constitutes the score. The norms are the mean scores for 200 delinquent boys 50 delinquent girls 50 school boys and 25 Boy Scouts (see Table 7). Decile rating equivalents for raw scores are also included for 200 delinquent boys 75 normal boys and 50 delinquent girls.

TABLE 7 Average Scores for the Behavior Cards

Subjects	Number	Average Score	Standard Deviation
Delinquent boys	200	41.5	17.1
Schoolboys	50	24.8	15.4
Boy Scouts	25	20.6	10.6
Delinquent girls	50	28.2	15.3

SOURCE: Adapted from R. M. Stogdill *Manual of Delinquent Behavior Cards*
Columbus, Ohio: H. L. Hedrick, 1947. 2nd edition, Table 1, p. 6.

The mean score for the delinquent group is significantly higher than the scores made by the nondelinquent children. An abbreviated form of this test is available with separate norms.

The standardization population consisted of 200 delinquent boys committed to the Bureau of Juvenile Research in Cleveland who were given the Behavior Cards. The statements for this test were taken from case histories of children known to the Bureau and from another inventory. Each item had to meet two out of three validity criteria in order to be accepted in the final test. Validity coefficients of .68 and .72 for two groups of delinquent boys and .52 for a similar group of girls were reported by Stogdill. The Yes or No answers to the statements were compared with case history data for the delinquent groups to secure item validity. In a follow-up study Stogdill found that this test should not be used to predict future adjustment of delinquent boys and girls. The major area of application is the usefulness of the individual items for eliciting and understanding the child's problems and his perception of the various forces in his life space. Some items are (Stogdill, 1947)

- 1 Do some boys or girls tease you?
- 9 Do people accuse you by saying things that aren't true?

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21 Is your teacher always blaming you for things you didn't do?

38 Did you ever steal things from the stores?

Split half corrected reliability for the four groups shows delinquent boys r of .92 schoolboys r of .91 Boy Scouts r of .83 and delinquent girls r of .85

The Behavior Cards are published by H. I. Hedrick and distributed by The Psychological Corporation. There are no references in the literature for this test after 1917. There currently exist excellent opportunities for further research and development of this test because of the trend in modern penology to set up centralized youth authorities to deal with the problems of delinquency. This should serve as a fruitful source of research data especially since this device has been designed for literate adolescent and preadolescent youngsters.

DEPRESSION ELATION TEST

This inventory was devised by Jasper (1930) who felt that there was a need for a more reliable and valid test along the depression-elation continuum. He was also interested in minimizing faking. The depression-elation continuum as defined by Jasper (1930 p. 309) included The three ambivalent characteristics of emotional temperament—depression-elation, optimism-pessimism, and enthusiasm-apathy. The background is that of systematic psychiatry.

Two sets of questions were devised. Set I consisted of objective items e.g. Is there more happiness than sorrow in the world? and Set II subjective items such as What is your characteristic mood? Eleven college students provided ratings of 1, 2, or 3 (elation 1, depression 3) so that a high final total score showed a high degree of depression. Forty questions (20 subjective and 20 objective) with alternatives for each were then given to 551 students as a Social Attitude Questionnaire to disguise the nature of the test. Their responses plus the judgments of psychol

ogists with regard to the relative depressive value of the alternative choices for each item led to the final form of the DE Test. A sampling of the items and the scoring procedure follows (Jasper, 1930, pp 310-312)

Directions Check one of the five answers given to each question is the answer which comes nearest to being the answer you would accurately give to the question. In column D following each question place a number indicating the degree of difficulty which you found in answering the question as follows

- | | |
|-------------------|-----|
| Very easy | (1) |
| Somewhat easy | (2) |
| Medium difficulty | (3) |
| Fairly difficult | (4) |
| Very difficult | (5) |

1. A college education is _____ D

Of considerable value _____ Of very doubtful

value _____ Of some value _____ Of extremely

great value _____ Of very great value _____

22. I tend to have blue spells _____

Occasionally _____ Constantly _____ Fre-

quently _____ Very rarely or never _____

Rarely _____

The subject indicates his choice by checking one of the five alternatives. Each response has a numerical score value which is placed by the tester in the O (objective item) or E (subjective statement) column and is then totaled for the final quantitative evaluation along the depression relation continuum. The degree of decision difficulty is written in by the testee in the D column for each item.

Validity data for this final form include correlations between 34 students' answers to the item and their ratings by six judges (professors and class officers) according to their estimate of the degree of depression in their characteristic disposition (p 314). The corrected r between the pooled judgments and the DE Test data is .71, fairly high for this type of procedure. Split-half reliability is .77. The r between the objective items and the subjective items is .58, interpreted by Jasper as evidence of the ability of

both types of items to detect along this continuum. Test-retest reliability after one month is .85.

This test according to its author is useful for group screening along a new personality dimension and yields further descriptive data essential for understanding human behavior. There are no references to this test in the *Psychological Abstracts* for 1915 to 1975 inclusive. The lack of research makes an evaluation of this test quite difficult.

FOOD AVERSIONS TEST

Wallen (1915) believed that information regarding a person's food habits i.e. attitudes such as hesitancy in tasting new dishes, caution in food preparation, haste in eating or attachment to mother's cooking probably operate well into adult years (p. 77) and reflect the emotional growth of the individual. This is especially significant in view of the fact that one of the more serious problems of child rearing centers around feeding.

The original list (Wallen 1913) contained 113 names of foods and beverages which were submitted to 515 college men and women. The final list had the names of those common foods and beverages known to at least 90 percent of the college population, none of which was disliked by more than 10 percent of the group. Wallen's subrationale was that neurotics have a greater aversion to common foods than do normals. This food list was then given to 95 neurotic and 211 normal servicemen. The neurotics showed a significantly higher number of common foods disliked than did the normal servicemen. Follow-up associations with the disliked foods checked by the normal and neurotic subjects indicated that the latter had a greater amount of derogatory ideas associated with these foods. For example, one neurotic stated that cauliflower reminded him of vomit. Normals did not have disagreeable associations with the few disliked foods checked.

Gough (1946) used this list with 251 normal and 79 neurotic soldiers and found an extremely high difference

in the number of foods disliked by the neurotic as compared with the normal persons. The nature of the two populations was psychiatrically established so that this could be conceived as a cross validation study on the Food Aversions list. In an attempt to relate food aversions to behavior disorders, Wallen (1918) gave the list to 227 military recruits scheduled to be separated for psychiatric disability. There was no significant relationship between a disease entity (as psychiatrically classified) and the number of aversions. Further validation was made by comparing the number of aversions with psychiatric reports. Wallen concluded that "We do not offer these data as proof of any hypothesis, but they certainly point toward the conclusion that high aversion scores are probably related to poor emotional control" (p. 311). Altus (1949) reported results with an illiterate population to indicate that the socioeconomic level of the subject played an important role in the final checking of aversions. He concluded that more work must be done with this useful device.

The instructions for giving the test are simple. The subject is asked to mark an X after the listed food he dislikes to the point of refusal to eat it. The list is made up of (Wallen, 1918, p. 310): "tea, grapefruit juice, bean soup, potato soup, salmon, beefsteak, veal chops, chicken, fried eggs, cottage cheese, Swiss cheese, lima beans, cabbage, corn, mushrooms, radishes, tomatoes, cantaloupe, cherries and pears." The score is the number of foods checked by the testee.

Validity and cross validation data were obtained with service personnel after the original list had been submitted to a college population. [This may place in doubt the usefulness of the final food list as has been shown by Altus (1949)]. The normal and neurotic service groups had been fairly well established by psychiatric definition. On the basis of the obtained data, Wallen (1948) suggested a critical score of two and above as suspicious of neurotic involvement. No reliability data could be obtained for the normal group because the number of aversions checked was so extremely

low (less than two). For the neurotic group Wallen (1910) reported a split half reliability of .85.

This test is recommended for use as a quick screening device for large populations to select the grossly maladjusted individuals. It is emphasized by Wallen that this test reduces the degree of falsification that could enter into a direct interview situation. The Food Aversions Test does have screening usefulness but only to initiate a follow up process. Reliability and validity should be established with a nonservice population for use with a civilian group. A major criticism of considering the socioeconomic level of the individual is a serious one and must be overcome if the meaning and the utility of this test are to be enhanced. In its present form, considering the standardization population, this test should be confined to use with service personnel. This last notion is taken into account in a study by Smith, Powell, and Ross (1955) who used the food list along with three psychometric personality inventories on a college population. The results show that the unstable and emotionally disturbed student scores high on the Food Aversions Test. This supports Wallen's hypothesis regarding exaggerated dislike for food as a symptom of anxiety.

INTROVERSION EXTROVERSION TESTS

The use of introversive and extroversive descriptions of behavior as personality attributes was given prominence by Jung (1916) in his type theory of personality. Freud (1921, pp. 74-75) gave the following composite definitions of these two terms. **Introvert** An individual in whom exists an exaggeration of the thought processes in relation to directly observable social behavior with an accompanying tendency to withdraw from social contacts. **Extrovert** An individual in whom exists a diminution of the thought processes in relation to directly observable social behavior with an accompanying tendency to make social contacts.

These definitions and his belief that differentiations could

be made led Freyd to compile a list of 54 behavioral tendencies shown by introversive persons (extroverts behave in an opposite manner) This list formed the basis for the Heidbreder Test

HEIDBREDER TEST OF INTROVERSION-EXTROVERSION

This test was very simply constructed The 54 Freyd traits (1924) were converted into a rating scale and given to 900 university students The subjects self characterizations were indicated by placing a +, -, or ? before each item as it applied, did not apply, or was doubtful Each student was then instructed to obtain two ratings on the same items from two associates The self ratings of 100 men and 100 women and their 400 ratings by associates were randomly selected from the data of the 900 subjects These served as the validating population Either/or types of students were not found The distribution of the self ratings and associates ratings fell into a fairly normal probability curve with a slight skew toward the extroversive end However, students did tend to rate themselves more introversive than did their associates The correlation between self ratings and associates ratings was .55

The diagnostic value of each Freyd item was then computed on the basis of the differentiating influence of the item for the 25 percent most introverted and 25 percent most extroverted total scores of the students in these two subgroups Heidbreder (1926 pp 129-131) then listed the items from 1 to 54 in order of their discriminative power

Heidbreder points to the lack of an external validity criterion, but the correlation between self ratings and associates' ratings appears to be sufficient to warrant the use of this list of items for the assessment of an introversive or extroversive attitude on the part of the subject Reliability data are lacking However, Bernreuter (1943) reports a split half corrected reliability of .71 with his group of 157

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first year male engineering students. This is not an impressive reliability coefficient perhaps the test-retest method would have been more satisfactory.

The test may be used with college students and adults for self-rating or rating by another person. Several items are listed below in their order of discriminative power. A +, - or ? is the mode of responding (p. 129 ff.)

- 1 I limits his acquaintances to a select few
- 2 Feels hurt readily apparently sensitive about remarks or actions which have reference to himself
- 19 Is outspoken says what he considers the truth regardless of how others may take it
- 33 keeps a diary
- 50 Is thrifty and careful about making loans
- 54 Is conscientious

The final score is the algebraic sum of the plus and minus signs. A plus rating is in estimate in the introversion direction the minus is extroversion. The final sum discloses the overall tendency of the rater.

Bernreuter (1934) correlated this test with a number of other introversion extroversion and neuroticism inventories. The intercorrelations are given in Table 8.

TABLE 8 Intercorrelations Between Heidbreder Test of Introversion Extroversion and Several Other Inventories

Test	r
1 Root Test of Introversion Extroversion	53
2 Colgate Personal Inventory C1	72
3 Neymann Kohlstedt Test of Introversion Extroversion	43
4 B3 Introversion Extroversion of the Personality Inventory	71
5 Willoughby Personality Schedule	61
6 B1 Neurotic Tendency of the Personality Inventory	66

SOURCE: R. G. Bernreuter, The intercorrelation of tests of introversion extroversion and neurotic tendency. *J. Soc. Psychol.* 1934 5: 184-189.

The correlation coefficients are fairly high and disclose that all of these tests probably measure a common factor called emotional expression or control and that introversion extroversion and neuroticism are fairly closely related to

each other. The high correlations in Table 8 may well be influenced by the fact that college students were the subjects in Bernreuter's study and in Heidebreder's standardization population. There are no references to this test in the literature of the past decade.

NEYMANN-KOHLSTEDT INTROVERSION-EXTROVERSION TEST

Taking their cue from Jung the authors of this test (Neymann and Kohlstedt 1929) selected 100 statements which they felt would result in a test of clinical and general significance would have no right or wrong influence on the testee and one half of which would be pleasing to extroverts and one half pleasing to introverts. They then related psychiatric categories to the concepts of introversion and extroversion as follows (p. 482). We know that manic depressive insanity and hysteria are typical extrovertive phenomena while schizophrenia, psychasthenia and neurasthenia belong generally to the introvertive groups.¹ With this as the guiding assumptive principle they selected a standardization group of 100 typical schizophrenics and 100 typical manic depressives in accordance with psychiatric definition. By some unreported procedure the original items were reduced to 50 the present form of the test published by the C. H. Stoelting Company.

The subjects were asked to indicate their like or dislike for each of the items by underlining the Yes for like and No for dislike. Some of the items are (p. 483 ff.)

- | | | |
|--|-----|----|
| 1. Be by yourself a great deal | Yes | No |
| 13. Dislike having people watch you | Yes | No |
| 26. Rewrite social letters | Yes | No |
| 43. Avoid trouble rather than face it | Yes | No |
| 50. Take an active part in all conversations going on around you | Yes | No |

¹ Evidence for this content on was published concurrently with their paper in an article by Campbell (1929) using Heidebreder's Test of Introversion-Extroversion on a psychiatrically defined population.

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On the basis of predetermined response values a final score is obtained so that plus scores are extroversion and minus scores are introversion indices. The final scores Table 9 for the two psychiatrically defined groups show little overlap.

TABLE 9 Frequency Distribution of Scores by Two Groups of Psychiatric Patients

Manic Depressives (Extroversion)		Schizophrenics (Introversion)	
Score	Frequency	Score	Frequency
50 to 40	9	-50 to -40	-
40 to 30	26	-40 to -30	19
30 to 20	37	-30 to -20	32
20 to 10	21	-20 to -10	36
10 to 0	7	-10 to 0	5
-6	1	1	1

SOURCE: G. A. Neymann and K. D. Kohlstedt. A new diagnostic test for introversion-extroversion. *J. Abnorm. Soc. Psychol.*, 1939, 23: 497-497, p. 486.

In their work with normals Neymann and Kohlstedt also found a bimodal distribution of scores dividing the greater portion of the population into introversion and extroversion groups.

There are several serious shortcomings in the construction and validation of this test. Neymann and Kohlstedt do not report how they arrived at the final 50 items. The discriminative value of each item is not given. Most important, however, is the lack of information regarding their method of predetermining the introversion-extroversion differentiating value of the test responses. Stagner found a low correlation between this test and the Laird test purporting to measure along the same personality dimension. While Neymann and Kohlstedt did not give reliability data, Bernreuter (1934) reported a split-half reliability of .62 for this test. In the same study Bernreuter found rather low intercorrelations with other tests of introversion and extroversion with the exception of the Root Test of Introversion-Extroversion.

On the basis of these findings Bernreuter concluded that

The three remaining tests [of which the Neymann Kohlstedt is one] do not appear to be sufficiently reliable or valid to justify their practical use in situations where the scores obtained for individual subjects are to be interpreted separately (p 185)

Root and Root (1932) undertook a validity study of this test in addition to ascertaining the discriminative power of individual items By distributing the scores of 153 normals on whom four judges agreed unanimously with regard to item ratings, they obtained the same type of bimodal curve as Neymann and Kohlstedt reported for their two psychiatric groups This is in direct contradiction to Heidebreder's (1929) and Strangers (1932) findings The latter investigators obtained normal distribution curves for their subjects Root and Root believed that this test, with some revisions could be made more efficient and valid for probing into the introversion extraversion dimension Test retest reliability, after a 10 week interval, yielded an r of .78 They regarded this low reliability coefficient as the result of events which occurred between test and retest rather than a reflection of the instability of the test itself There have been no research references to this test reported in the *Psychological Abstracts* since 1945

Other tests of introversion extroversion are Scale B3 I of the Personality Inventory (Bernreuter 1938), Northwestern University Introversion Extroversion Test (Gilliland and Morgan, 1931) Colgate Personal Inventory C4 (Whitman, 1929) Of these tests the most widely used is the Personality Inventory in which the B3 I scale is one of six personality features measured by this multidimensional test

The neophyte in the field of testing must use test findings cautiously A single dimension inventory requires an awareness by the psychologist that the overall score masks a serious pitfall The temptation to look upon the client as being one kind of person looms large The weakness inherent in this approach is that it overlooks the individuality of the

life situations in which a person finds himself from one moment to the next. A characterization based on a single all inclusive score disregards the observed fact that a person usually does not respond to all events in his life space in the same manner. For example, a college student may respond to an introversion extroversion questionnaire in one direction as indicated by the final score. Yet this same individual in a real life situation or in a changed set of circumstances (and depending upon his perception of the particular situation) may respond in the other direction. This is the recurring problem of *would* versus *should* in test responsiveness and involves the essential issue of validity (predictability) of tests.

5. SINGLE-TRAIT PERSONALITY INVENTORIES AND SCALES (Continued)

CASSEL GROUP LEVEL OF ASPIRATION TEST

THE CONCEPT OF ASPIRATION AND THE PERSON'S ability to achieve a preset goal have been studied in the psychology laboratory and in clinical situations because of their importance in personality dynamics. Cassel (1952) interpreted aspiration as goal directed motivation whether or not the person is aware of these drives. There is the further implication that this dimension is related to the individual's ties to reality thus involving the organism's physical field (objective reality) and psychological field (subjective reality). This rationale supports the feasibility of an aspiration test. The degree to which a person can relate his current status (what he does or can do) to his goal striving (what he perceives he will or would like to do) is characterized as his aspirational level. The main score for evaluating the level of aspiration dimension of personality has been the mean discrepancy between performances and succeeding goals on the same task. Since discrepancies are derived from direct behavior it is believed that such discrepancies are characteristic of behavior aspects (Cassel 1952 pp 3-4). Cassel believes that goal motivated and goal achieving behavior are but two sides of a single coin. Both procedures exist on a continuum which reflects a unified and interwoven process resulting from the varying magnitudes and directions of the elements in the particular situation.

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The test itself consists of 12 parts to be administered with strict adherence to verbal instructions and time limits. The form itself is reproduced in Figure 1.

The subject estimates how many small circles (o) he can enter in the spaces above and below each X within a stated time limit. In the box marked "Number of X's I expect to do" the subject estimates his productivity (up to a maximum of 120) *before* the start of each part (this is the bid). After

[illegible]

FIGURE 1 Example of One Part of the Caswel Group I level of Aspiration Test and Score Boxes (Source R N Caswel *The Caswel Group Level of Aspiration Test* West Los Angeles Calif Western Psychological Services p 3)

time is called the subject counts the number of X's completed and records this in the box marked Number of X's I completed (this is the make or made) The score for each part is obtained by subtracting two points for each X below the subject's estimate or bid from the number completed Thus, if the testee estimated 20 and completed only 18 he fell two X's below his bid 2 times 2 equals 4 points this is subtracted from 18 leaving a score of 14 All of the scores are brought together in the evalograph on the first page of the test booklet and evaluated

The most significant score is the mean aspiration D score (MADS) which discloses the average discrepancy for Parts

2 to 10 inclusive between the bid and make or the difference between goal orientation and actual achievement. As the test proceeds from Part 2 to 10 the subject's bids and makes should come closer together as he observes his estimates and actual achievements. This Cassel calls the measure of irrationality. The smaller the MADScore the closer the tie to reality. Interestingly enough this score has a high reliability and is uninfluenced by intelligence and scholastic achievement. Norms are provided for college, high school and penal institution groups.

Another useful score is the mean clinical D score (MCDS) which is computed in the same manner as the MADScore but takes into account plus or minus differences between average bid and average make scores for Parts 2 to 10. Persons who can accord their estimates of achievement with actual achievement as they progress from Part 2 to Part 10 have low MCDScores. They are sufficiently flexible to deal with the realities of life and therefore can adapt more readily without too much effort. This of course is a healthy sign provided the individual is not lowering his bid and reducing his make in order to obtain better MAD and MCDScores. As Rotter indicates the low MCDScore is not always a wholesome picture (see Cassel 1952 pp 19-22).

An interesting clinical interpretation may be derived from Parts 11 and 12. Unknown to the subject the time limit for Part 11 is three seconds shorter than the others so that the testee usually cannot complete as many X's as estimated on the basis of past performances on Parts 2 to 10. It is desirable to see the effects of this failure to achieve (if it does take place) on the individual's bid for Part 12. This is assayed by the psychological response to failure score (PSRF) and the physiological response to failure score (phRS). Methods of computation and interpretation are contained in the *Manual* and are too detailed for elaboration here.

Validity and reliability standardization data are meager. The *Manual* does not discuss the origin of the test and the

bases for the selection of the various populations. There is no bibliography of the journal sources for the data credited to Rotter, Dembo, Hoppe, and Lewin.

Published in 1952 by the Western Psychological Services, this test is designed for subjects from grade 5 (11 years of age) to adulthood. Cassel emphasizes its usefulness with delinquents. The Level of Aspiration Test is relatively new so that only his studies with it appear in the literature. More data regarding the basic rationale, population selection, validity, reliability, and other areas of application are essential at this time.

MASCULINITY-FEMININITY TESTS

Psychologists and cultural anthropologists make elaborate efforts to differentiate between male-female and masculine-feminine. The former is a matter of biological structure while the latter may have its roots in biology but finds expression in the psychological activities of the individual. In *homo sapiens* the psychosocial roles of men and women go beyond biology and become a function of the culture in which male and female are reared. In our particular society, the American suboccidental culture, roles are somewhat clearly defined. Exceptions must be recognized in those changes gradually brought about by overlapping and crossing over by male and female into fields previously restricted to each sex. Women are serving in the armed forces, but at the same time they are still considered the "weaker sex." Very few, if any, of the occupational, interest, and avocational areas in the American culture are the sole property of one sex to the total exclusion of the other. Certainly this weakening of restrictive lines has been accelerated since World War II. It would seem, then, that beyond the reproductive function, society cannot regard as feasible the artificial separation of male and female into masculine and feminine activities because of sex alone. Despite this, however, social expectancies still influence interests, activities, and attitudes which generally differentiate masculinity and

femininity on the basis of maleness and femaleness. More over these differences are measurable. This is the basic hypothesis behind the inventories and scales of masculinity and femininity. There are several such psychometric and projective tests. A psychometric test of masculinity femininity will be discussed here.

ATTITUDE INTEREST ANALYSIS TEST

This test of masculine feminine interests and attitudes devised by Terman and Miles (1938) is published by the McGraw Hill Book Company. These authors are acutely aware of the changes that the passing years have brought with regard to psychosocial roles. They accept the fact that role dichotomies are doubtful. Yet because there are still some role regularities within the definitions of the subculture they present this Attitude Interest Analysis Test (or MF Test) as a means of determining the dominant direction of the interests attitudes and thought trends of an individual as it conforms or diverges from the typical picture of his or her own sex group.

The MF Test has two forms A and B. The full title disguises its real purpose to reduce slanting responses. Both forms contain seven exercises with items requiring word association association with inkblots information emotional and ethical judgments interests estimates of like or dislike for persons and opinions regarding a number of concepts and finally reactions to introverted statements. The test grew out of a study of the activities of superior children. Briefly a large number of items were administered to male and female subjects. Items which consistently differentiated between the two groups were incorporated into the final two forms of this test. Over 6 000 persons have contributed to the norms.

The reliability of this test has been determined by the test retest and split half methods. The r for Forms A and B is .88 for single sex groups i.e. boys with boys and girls with girls for mixed sex groups of subjects the reliability

correlation is .96 for all testees. Each of the seven exercises is reliable but in varying degrees; the least reliable is exercise 7, Introverted Response; the highest reliability is shown by exercise 1, Emotional and Ethical Response; the range is from .24 to .89 for single sex groups and from .32 to .90 for the sexes combined.

Details regarding basic postulates and methods used in selecting the exercises and items in both forms may be found in Chapter III of *Termen and Miles* (1936 pp. 18-51). The validity criterion was a matter of deep concern for the test builders. They could not use another masculinity-femininity measure since none existed. Paucity of personal information prevented finding a relationship between test scores and clinical data of the validation population. The method of subjective impression ratings by judges gave results too diverse for value in validating this test. They decided upon an internal criterion—the extent to which the test scores differentiated among the subjects and the consistency with which the scores accomplished this. This was the method of contrasting groups. There was some overlap in the scores of the male and female groups but not to the extent that the means for each group lost discriminative value. In an extremely wide sampling of male and female subjects from eighth graders to elderly adults drawn from many occupations and social strata, *Termen and Miles* secured differences between the means of the various male and female groups ranging from 18 to 155. The male scores varied from 200 to -100; the females scored between 100 and -200.

The averages for each sex group in the general population are 52 and 170 respectively for men and women. Separate norms are available for high school and college students and adults. The norms are expressed in percentiles and standard scores for the various groups in addition to norms for each of the seven exercises. Scores in Forms A and B may be transformed from one to the other by means of conversion tables. Caution must be used in the interpretation of scores. At no time is a deviant score sufficient reason

for labeling a person as a sexual pervert. Essentially this is a test of interests and attitudes considered to be characteristic of males and females in the Western subculture. Some of the many factors contributing to item responses have roots in the micro-society within which the individual has been reared, the opportunities for exploring and following up intellectual pursuits, the level of scholastic attainment, and local geographical influences. The test may be faked, as shown by Terman and Miles (1936, pp. 77-78).

Some sample questions and items for each of the exercises follow (Terman and Miles, 1936, pp. 482-506, Form A).¹

Exercise 1, Word Association consists of sixty key words followed by four choices, one of which is to be underlined.

"POLE barber cat North telephone

FACE enemy powder pretty wash

(Each of the alternatives has a +, -, or 0 value. In this and subsequent exercises + gives one point toward masculinity, - counts toward femininity, 0 is neutral.)

Exercise 2, Inkblot Association, consists of eighteen small black and white reproductions of somewhat unstructured inkblots. There are four choices besides each item. The task is for the subject to underline one of the four alternatives as it accords with what the blots remind him of. (Each alternative has a +, -, or 0 value.)

Exercise 3, Information, has seventy incomplete phrases with four alternative completions. One is to be underlined which makes the sentence a true one.

'Marigold is a kind of fabric flower grain
stone

About A.D. 1750 men's sleeves had bands lace
ruffles stiff cuffs stripes'

(Each alternative has a +, -, or 0 value, in addition, omissions are scored 0, +, or - as indicated by the key.)

Exercise 4, Emotional and Ethical Response, lists one hundred and five items to be answered by drawing a circle around V (very much), M (much), L (a little), or N (none) as each item causes anger, fear, disgust, arouses pity, etc.

¹ By permission from *Sex and Personality* by L. M. Terman and C. C. Miles, 1936, McGraw-Hill Book Company, Inc.

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a Causes anger

Being called lazy VM M I N

Seeing a person laugh at a cripple VM M I N

c Causes disgust

An unshaven man VM M I N

Foul language VM M I N

(Each of the above choices has + - 0 value to be totaled to find the final score)

Exercise 5 Interests lists a total of one hundred and nineteen items for Form A one hundred and eighteen for Form B to which the testee must react by drawing a circle around I (like), D (dislike) or N (either like nor dislike). There are twenty-five occupational items

Architect L D N

Bookkeeper I D N

Other items refer to kinds of people activities and fiction story titles to which the subject must reply in the same manner by encircling I D or N (The responses have + -, or 0 value)

Exercise 6 Personalities and Opinions is made up of forty-two items in Form A forty-one in Form B in which the individual

a Encircles an L D or N to the names of famous persons

Jane Addams L D N

Billy Sunday I D N

b Decides the truth or falsity of a statement

The face shows how intelligent a person is T F

(An omission of an item has 0 value)

Exercise 7 Introverted Response is evaluated from the subject's answers to forty-two questions

Do you like most people you know? Yes No

Do you feel tired a good deal of the time Yes No

(As with the others each response has an assigned + - or 0 value)

Weighted scores for each response are given in the *Manual* and a final overall masculinity femininity score is obtained

DeCillis and Orbison (1950) report a study on 129 men and 50 women college undergraduates who completed the MF Test (Form B) and the MMPI. The correlations between the MF Test and the Mf scale of the MMPI for this population are - .30 for men and - .37 for women (The

negative correlations reveal an inverse relationship between the two tests—a high MF Test score indicates masculinity as does a low MMPI score) Both correlations are significant. The tests differentiate between men and women but the contents of the individual items hint that the scales may be assessing different aspects of the masculinity femininity dimension.

A recent study by Shepler (1951) compared the effectiveness of Franck's (1949) projective masculinity femininity test with three such paper and pencil inventories. Fifty-seven male and 67 female college students served as subjects. The tests used were MF Test, MF scale of the Strong Vocational Interest Blank, Mf scale of the MMPI, and the Franck Completion Test. The latter did not correlate significantly with any of the three psychometric tests while all three paper and pencil masculinity femininity tests intercorrelated at the .01 level of confidence. Apparently Franck's test failed to survey the aspects of masculinity femininity assessed by the other three tests.

The MF Test is the most extensively probing tool for this particular personality dimension. Validity and reliability are quite satisfactory. The area of greatest usefulness is in eliciting attitudes and interests of the individual. The most serious pitfall is the temptation to misinterpret the results by placing too much emphasis on the final number rather than making an analysis of the particular items which contribute to a deviated score for the testee. Psychosocial and psychosexual roles must be inferred with caution.

PS (PSYCHOSOMATIC) FUNCTIONAL BEHAVIOR TEST

Freeman (1950) cites the following as the basic rationale for his test (p. 229): 'The psychosomatic patient shows particular constellations of somatic symptoms and personality traits capable of being experimentally measured and established as a distinct clinical entity. In other words, these symptoms occur together with sufficient frequency to con-

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(At this point there is a list of nineteen reactions, e.g., sad, no appetite, aches and pains, etc., characteristic of neurotic manifestations which the subject underlines as they apply to him.) The first five questions probe reactions to situations that provoke assertive or aggressive behavior. The second half of this test has the lead question: '6 If you are anxious, fearful or discouraged, do you express it at once?' Four more questions follow similar to those listed above. Question 10 is identical to question 5 of the first half and has the identical list of neurotic dysfunctions. These questions revolve around the testee's reaction to anxiety and discouragement.

Four hundred and forty seven subjects completed version #2 and served as the validation group. The validity criterion was the psychiatric diagnosis and classification of the patient group. A positive finding, i.e. that the subject had a behavior disorder, was signified by a Yes or Sometimes response to questions 5 and 10, plus checking one or more items listed underneath these questions. This test correctly identified 86 percent of the subjects with a behavior disorder and 70 percent of the persons without a behavior disorder.

The weaknesses are quite apparent. (1) The 30 percent false positives among the mentally healthy persons is a serious obstacle in gross screening. (2) The 14 percent false negatives among patients is another shortcoming because 14 out of every 100 mentally ill persons could slip through the screen. (3) There are no reliability data reported by the authors. (4) Validity criteria are psychiatric diagnoses, but no effort has been made to establish the validity of the psychiatric classifications of the patients. (5) The normal control subjects are drawn from a professional population only.

The test is self-administering and can be used with adults. Gleser and Ulett (1952) used version #3 (different in typographic layout and using Never, Rarely, Usually, Often, and Always in place of Yes No or Sometimes) as a screen for anxiety proneness. One hundred and fifty-one normal

and 40 maladjusted males were given this test the Taylor Anxiety Scale and several projective devices. Each testee was rated on an eight point anxiety proneness scale by a psychiatrist and psychologist. They concluded that the Screening Test correlated highest with the Anxiety Scale r 's of .56 for normals and .68 for patients. In view of the very brief administration time required for this test four to five minutes Gleser and Ulett felt that its use was justified for crude screening.

SECURITY INSECURITY (S I) TEST

A popularly used term is security. Professional and non professional persons resort to this word to account for behavior observed in the course of an ordinary day's events. Maslow (1952) feels that mental health and security may be used interchangeably. This is an important psychiatric and psychological concept and has a central role in the personal dynamics of adaptation. Maslow (1945) developed this test as a by product of a query into the problem of security insecurity as a bipolar personality dimension. He reported 14 subsyndromes in a twofold manner.

Insecurity	Security
1 Feeling of rejection of being unloved of being treated coldly and without affection of being hated of being despised	1 Feeling of being liked or loved of acceptance of being looked upon with warmth
14 Selfish egocentric individualistic trends	14 Social interest (in Adlerian sense) cooperativeness kindness interest in others ³

Each of the 14 psychological and behavioral manifestations finds security and insecurity counterpoised to give an inclusive picture of these concepts. The approach of systematic psychology was utilized for the validity criterion i.e. individuals with clinically established feelings of security and

³ Reprinted from p. 21 of *Manual for the S I Inventory* by A. H. Maslow et al. with the permission of the publishers Stanford University Press. Copyright 1952 by the Board of Trustees of Leland Stanford Junior University.

mat is similar to his better known Personality Inventory (1935), which now includes self sufficiency as one of the six scales, B2 S The validity criterion was an internal one with the subjects, college students, taking the test and then rating themselves "on four aspects of self sufficiency: need for sympathy; appreciation, encouragement; desire to be alone; frequency of asking advice; and ability to handle responsibility" (pp 297-298). The correlations ranged from .18 to .69 Associates' ratings on the same four scales correlated .51 with the individuals' test responses The reliability values, obtained with college students, were .81 and .85.

The S S Test is in mimeographed form only and requires the testee to encircle a Yes, No, or ? for each of the 60 items. A scoring key enables the tester to total the number of significant items marked in the direction of self sufficiency. Percentile norms are available for college men and women. This test has limited usefulness unless it is desirable to evaluate along this single trait.

SOCIAL COMPREHENSION TEST

This test purports to assay awareness of the "accepted rules of social conduct" by high school and college students. Developed by Turbay and Schrammel (1912), it is published by the Bureau of Educational Measurements of the Kansas State Teachers College

The test itself contains 330 statements to be marked + (true) or - (false) Fifteen aspects of social behavior are probed; social calls, teas, receptions and parties, introductions, invitations, table etiquette, dress and personal habits, public courtesies, correspondence, house guests, conversation, traveling, funerals, dances and balls, courtships, engagements, weddings, and miscellaneous These separate elements are included in the generic term "social comprehension" For each activity a variety of situations is given to the testee for consideration The appropriateness of the subject's response is evaluated in terms of its conformance with, or deviation from, the accepted pattern For example (1912, p 2)

I Social Calls

- () 1 The bride must return calls after the marriage
() 10 The hostess should rise to greet a man caller

III Introductions

- () 40 In introducing a person to a group it is necessary to repeat this person's name each time

XV Miscellaneous

- () 330 Profanity has come to be accepted in good society

The raw score is the number of correct choices. This may be obtained for each part separately and for the total test. Norms are given for grades 9 through 12, college freshmen, and upper classmen. Percentile ratings are available for the total score. Median scores are given for each group and for each part separately.

Test validity was obtained by the method of contrasting groups. Items which discriminated significantly between students in the first and tenth deciles were retained in the final form of the test. The split-half reliability coefficient was a fairly satisfactory .86. The applicability is a moot question. No indication is given of the effects of differences in socioeconomic and subcultural backgrounds. It must be inferred that this test should not be applied to a nonhigh school or noncollege group. It would appear to be most useful as a test given before and after a high school course in "social forms," as a check on its effectiveness, or it may be used to test the appreciation of the social amenities by junior and senior executives whose interpersonal responsibilities require an undue emphasis on social protocol.

SOCIAL PERSONALITY INVENTORY FOR COLLEGE WOMEN

This is a measuring device for "self-esteem," a concept that is not unitary but rather a generic term for a multiplicity of characteristics. Maslow (1942, p. 1) explains this complex term "as a tentative definition of high esteem: self-confidence, social poise, relaxation, tendency to extroversion, self-assurance, feeling of general capability,

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1	Aloneness in a person you have just met	-2	-1	0	+1	+2
25	Justifiable concern in a man	-2	-1	0	+1	+2

Scoring is accomplished with a transparent template which gives score values for each response. The final total is the algebraic sum of the positive and negative values. The published norms are restricted to a 'criterion group of unmarried Protestant, college women between the ages of 18 and 25' (Maslow, 1942, p. 2) and give the range of scores for 10 deciles in addition to mean and median values.

Maslow urges the following cautions in the use of this test: (1) Consider the ego security of the individual as affecting self-esteem, whether or not the testee is aware of the purpose of testing and is therefore influencing the directionality of her responsiveness; (2) the nature of the tester-testee relationship affects the responses; and finally (3) the subject(s) should not be too far removed in age, religious background, marital status, socioeconomic and educational levels from the criterion group. The test, therefore, is meaningfully usable only with women close to the validating population. It does have screening value with female college students. While the test purports to evaluate along the self-esteem dimension, the very nature of the definition of this term by Maslow reveals the complexity of the personality involvement that is included under this generic term.

WILSON SCALES OF STABILITY AND INSTABILITY

This test is published by the Bureau of Educational Measurements of the Kansas State Teachers College (1941). It makes use of self-analysis to assess stability and instability as a personality dimension. It may be administered to junior and senior high school students, college students, and adults. This gives the test a wide area of application.

The scale consists of two parts. Part I Stability has 42

self rating items The testee marks a line through a number from 0 to 10 to signify the intensity of reaction to each item (p 2 test form)

1	Parents love me	0	1	2	3	4	5	6	7	8	9	10
23	Sunday school	0	1	2	3	4	5	6	7	8	9	10
34	Close friends	0	1	2	3	4	5	6	7	8	9	10

The subject is directed to consider each personal experience in terms of 0—lack of or unaffected by this experience 1—the event has given the subject little feeling of stability increase in feeling is reflected by selecting a number up to 10—great feeling of stability Thus if parental love was not a source of stability 0 is crossed out and so on to 10 if parental love was a great source of stability

Part II Instability consists of 38 items divided into
Physical causes

1	Hurt in childhood	0	1	2	3	4	5	6	7	8	9
---	-------------------	---	---	---	---	---	---	---	---	---	---

Emotional reactions

5	Inferior	0	1	2	3	4	5	6	7	8	9	10
17	Not needed in any way	0	1	2	3	4	5	6	7	8	9	10

Home

21	Death in family	0	1	2	3	4	5	6	7	8	9	10
----	-----------------	---	---	---	---	---	---	---	---	---	---	----

Friends

27	Inability to hold friends	0	1	2	3	4	5	6	7	8	9	10
----	---------------------------	---	---	---	---	---	---	---	---	---	---	----

School

32	School as a whole	0	1	2	3	4	5	6	7	8	9	10
----	-------------------	---	---	---	---	---	---	---	---	---	---	----

Work and business

33	Lack of money	0	1	2	3	4	5	6	7	8	9	10
----	---------------	---	---	---	---	---	---	---	---	---	---	----

General causes

38	Moving from one place to another	0	1	2	3	4	5	6	7	8	9	10
----	----------------------------------	---	---	---	---	---	---	---	---	---	---	----

The responses are indicated as in Part I with the exception that a line through 1 signifies little feeling of instability and so on to 10 for a great instability reaction The score for each

part is the sum of the numbers selected in each part. The separate norms for each part are percentile ratings for the high school and college populations. These may be converted into letter grades, A to F, corresponding to very superior stability, A, and very inferior stability, F. The higher the percentile rating, the greater the degree of stability in Part I and instability in Part II.

A second set of norms permits the tester to compare the subjects' response to each item with the average value obtained by the high school and college standardization population. For example, item 3, "My love for my parents," has a high school student average of 9.07 out of a possible 10 points. This indicates that adjusted high school students derive a great feeling of stability from their love for their parents. A high school testee's score below 9 discloses a difference from the mean of his peers. Thus, all of the subject's reactions can be evaluated individually and more meaningfully, especially in clinical situations.

Originally a list of items in the preliminary edition of the scale was administered to a group of students with a request for additional statements they believed could assess their feelings of stability and instability. The subjects rated themselves on this scale and on the added items. The material in the final scale was selected as being most satisfactory for differentiating along this personality continuum. The validity criterion was the relationship between self-ratings and estimates of item significance for stability-instability discrimination. The standardization group consisted of 400 high school and 100 college freshmen students. Corrected split-half reliability coefficients for high school and college populations were .92 and .91 for Part I, Stability, and .95 and .91 for Part II, Instability, scales. Reliability appeared to be satisfactory.

This can be a valuable test, especially in a counseling situation as an aid to understanding the testee's perceptions of himself. The particular value is the greater flexibility permitted by giving the subject a wider choice of responsiveness, 0 to 10, than is present in the Yes, No, or ? type of

inventory This enables the client to show variations in reactions to situations thus giving a more adequate picture of the intensity of feelings attached to these situations

SUMMARY

Chapters 4 and 5 present in some detail the single trait tests Actually this is a misnomer as a description of the inventories questionnaires and scales Despite their roots in empirical and systematic observations the fact remains that all assume discreteness in the personality structure of the functioning organism This fractionated approach is steeped in the unsound belief that one phase of the person can be extracted from the milieu which gives it meaning and can be measured in splendid isolation This of course is an artificiality that lends statistical credence to the type trait factor view Even the apriorism of the unitrait concept must appear difficult to accept in view of the analysis of such qualities as self esteem masculinity femininity stability instability—actually generic terms each of which could be reduced to further elements In the following chapters this artificiality is continued in the multidimensional tests but some how is made in the direction of interactionism by the utilization of items as contributors to more than one personality quality

6. MULTIDIMENSIONAL PERSONALITY TESTS

IN CONTRAST TO THE DEVICES DISCUSSED IN THE TWO previous chapters, attention is shifted to paper-and-pencil personality inventories, questionnaires, scales, and schedules which purport to assess more than one dimension. While each of these tests gives results for a variety of labeled qualities, it is not to be assumed that independent traits are being evaluated. Nor should it be taken for granted that similar and identical trait names are necessarily concerned with similar and identical behavioral and descriptive aspects of the personality. Each of these personality attributes should be considered in terms of the particular test author's definitions rather than as conforming to generalized concepts. In this way the interpreter is in a position to make better use of the test findings.

Insofar as paper-and-pencil personality tests are useful for screening, multidimensional devices give a broader picture of the individual. The discriminations that are possible with these tools cover wider interlocking segments of human behavior and attitudes. A more representative personality picture emerges from a broader sampling of attitudes and behavior tendencies. The approaches utilized in these devices do not differ from the single-trait tests, i.e., the fundamental rationale stems from empirical observation, from the postulates of systematic psychiatry and psychology, and from the techniques of factor analysis (which in turn are based on the first two approaches). The tests in this and the following chapter have been selected on the basis of a survey of the

research literature and books on personality tests and measurements for the past 10 years. These are presented in alphabetical order.

THE ADJUSTMENT INVENTORY

This questionnaire has two forms, one for high school and college students (H. M. Bell, 1934) and one for adults (H. M. Bell, 1938), and is published by the Stanford University Press. The student version contains 140 items and assesses five areas of personal adjustment: (a) home, (b) health, (c) social, (d) emotional, and total. The adult form, with 160 questions, assays these five and, in addition, includes category (e) occupational adjustment.¹ The test is self-administering and is hand scored by means of templates. Machine scoring is feasible. The score for each adjustment area is the number of predetermined significant Yes or No answers marked by the testee. The adjustment area scores are summed up to obtain the total adjustment score. There are separate norms for each area and for total adjustment for men and women in high school and college and for adults.

The Adjustment Inventory ranks among the three most widely used paper and pencil personality tests along with the MMPI and the Personality Inventory. A survey of the recent literature is, in the main, favorably disposed toward this questionnaire as a large scale screening device and as a means of locating areas of difficulty as perceived by the testee. Much of the variance in research studies with this inventory cannot be attributed to the test alone but to variations in populations used, the difference in controlled and uncontrolled variables, and the criteria definitions for classifying subjects. The re-

¹ The omission of occupational adjustment from the student form sometimes necessitates using the adult form with those college students who do work while attending school. There are some borderline cases for which the examiner must make an arbitrary decision as to the form to use, especially with older college students.

In the strict interpretation of the term home, health, and occupational adjustments are not personality attributes but the effects of personality dimensions. However, such fine semantic distinctions should not be permitted to interfere with the fruitful utilization of test data.

views in Buross (1953) award a place for this inventory in the psychologist's repertory of tests. The author's own experience has been favorable with both the student and adult forms. It is especially useful in connection with a projective test in which the functioning of the client in a structured (Adjustment Inventory) and unstructured (Rorschach Ink blot Test) situation may be compared. Another effective value of this questionnaire mentioned for the single trait test and applicable to all paper and pencil tests is the help afforded the psychologist or counselor in pinpointing specific difficulties or sources of conflict.² Counseling situations may move faster when the counselor is aware of the problems perceived by the counsellee even if only at the conscious level.

The validity procedures for this questionnaire included obtaining the internal consistency of items, comparison of test scores with ratings by interviewers, the method of contrasting groups, i.e. adjusted with maladjusted subjects and correlation with other personality inventories. The adult norms stem from 194 men and 271 women between the ages of 20 and 50 years. The individual items were those which differentiated significantly between the adults in the upper and lower 15 percent of the groups. The test was also validated by another set of extreme groups, i.e. the extent to which the items discriminated between two groups of adults classified by counseling experts as either very well or very poorly adjusted (see H. M. Bell 1938 p. 4 Table IV). The split half reliabilities for each area and the total adjustment ranged from .81 to .94.

The validity of the student form was secured in the same way as above. In addition 400 college students were interviewed over a two year period to check their adjustment in the five areas assessed by this test. The norms were derived from 161 high school boys, 100 college men, 190 high school girls and 243 college women. Corrected odd-even reliabilities for each part ranged from .80 to .93. The reliability of this

² It is of course brings up a weakness of testing since no one test can touch upon all possible conflictual stresses. The experienced clinician uses his knowledge of tests to select an appropriate battery.

form was consistently established in a number of studies

There is a particular aspect of this test format that warrants some elaboration because of its value to the clinically oriented psychologist. The adjustment areas measured by this inventory are coded (a) home, (b) health, (c) social, (d) emotional, and (e) occupational. The questions relating to each area are randomly distributed. However, each question is preceded by one of the code letters as an aid in identifying the nature of the item.

- 1a Yes No ? Does the place in which you live now in any way interfere with your obtaining the social life which you would like to enjoy?
- 27b Yes No ? Do you frequently come to your meals without really being hungry?
- 77c Yes No ? Do you ever cross the street to avoid meeting somebody?
- 90d Yes No ? Are you troubled with feelings of inferiority?
- 118e Yes No ? Does your present employer or boss praise you for work which you do well?³

When scoring the inventory for each adjustment scale, the significant items can be brought together to form a running story of the client's reactions. Thus, all "a" or home adjustment responses can be read in sequence to yield a picture of the subject's perception of the different phases of home adjustment. This is feasible with other tests but a special key is usually necessary (Clark and Allen, 1952).

This inventory has all the weaknesses ascribed to paper and pencil personality tests. Moreover there is the (invalid) assumption that each question contributes to only one of the adjustment areas. The independence of the areas of adjustment assayed by this inventory has not been established, rather the evidence points to such marked intercorrelation of its scales that it would have been more meaningful to ascer-

³ Reprinted from p. 2 of *The Adjustment Inventory, Student Form* by H. M. Bell with the permission of the publishers Stanford University Press. Copyright 1934 & 1938 by the Board of Trustees of Leland Stanford Junior University.

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tain the loading of each item on the individual areas and assign weighted scores to each statement. Probably the scoring would be more cumbersome but the resulting adjustment picture would be more adequate. This interdependence was illustrated by Powell (1940). In his study with the student form he noted a very high relationship r of .72 between social and emotional adjustments. Furthermore both were influenced by home adjustment. Health adjustment seemed to be the only area that was somewhat independent.

Of special interest to counselors and psychologists in industrialized urban areas are local norms reported by Taylor and Capwell (1950) for 1123 high school students seen either in a counseling center or by the school counselor. The local norms are expressed in percentile ratings for each of the areas surveyed by this inventory. Differences exist for whites nonwhites and sex. These particular norms cannot be compared with those reported by H. M. Bell since the figures are interpreted qualitatively with no percentile equivalents. It does suggest however that score distributions are influenced by local conditions and therefore local norms are desirable.

BEHAVIOR RATING SCHEDULES

This device is a rating scale designed for use by teachers to survey a maladjusted pupil or to ascertain the characteristics of a class. This scale should be used only by those persons who know the ratee well enough with regard to the various qualities to be judged. The schedule is published by the World Book Company and is intended for use with pre school children and elementary and high school students. This rating scale originated in a study of teachers' attitudes toward children (Wickman 1928). The items were contributed by teachers in response to a survey of the nature and frequency of undesirable behavior by school children. The study began in the early 1920s and was carried on for a decade.

The scale has two main sections. Schedule A which probes

into behavior problems and Schedule B Division I—intellectual Division II—physical Division III—social and Division IV—emotional traits. Each division is on a separate page and there are detailed instructions and definitions of terms to help the rater apply the concepts to all children in a standard manner.

Schedule A Behavior Problems consists of a list of observable activities. Each activity is rated on frequency of occurrence. (See p. 96.)

Disinterest in school work is defined as follows (p. 5): 'Under this heading include any action of the child that you interpret as showing lack of interest in school work. If it [the item] has occurred more than twice but is not a consistent problem make a check in the third column. Norms for this schedule consist of the frequency with which each score occurs and its percentile rating.'

Schedule B is a rating scale. The rater checks the point on the line which describes the ratee in each of the 35 traits of the four divisions: intellectual, physical, social, and emotional traits (p. 3 ff.).

1 How intelligent is he?					Score
Feeble minded	Dull	Equal of average child on the street	Bright	Brilliant	
(5)	(4)	(3)	(2)	(1)	
33 Is he emotionally calm or excitable?					
No emotional responses apathetic, stuporous	Emotions are slowly aroused	Responds quite normally	Is easily aroused	Extreme response hysterical high strung	
(4)	(2)	(1)	(3)	(5)	

The number under the check mark is brought to the line at the right under *Score* and added separately for each division. Both total and division norms are given for frequency and percentile ratings. Norms are also available for a shortened form of Schedule B which omits 10 of the 35 scale items.

SCHEDULE A: BEHAVIOR PROBLEM RECORD

Score _____

Name _____ School _____

Rating by _____ Date _____ 19____ Grade _____

DIRECTIONS FOR USING

Schedule A

Below is a list of behavior problems sometimes found in children. Put a cross (X) in the appropriate column after each item to designate how frequently such behavior has occurred in your experience with this child. A cross should appear in some column after each item. The numbers are to be used in making your record. They are for use in scoring.

BEHAVIOR PROBLEM	FREQUENCY OF OCCURRENCE				Score
	Has never occurred	At least once or twice but no more	Occasional occurrence	Frequent occurrence	
Disinterest in School Work	0	4	6	7	
Cheating	0	4	6	7	
Unnecessary Tardiness	0	4	6	7	
Lying	0	4	6	7	
Defiance to Discipline	0	4	6	7	
Marked Overactivity	0	8	12	14	
Unpopular with Children	0	8	12	14	
Temper Outbursts	0	8	12	14	
Bullying	0	8	12	14	
Speech Difficulties	0	8	12	14	
Imaginative Lying	0	12	18	21	
Sex Offenses	0	12	18	21	
Stealing	0	12	18	21	
Trouncy	0	12	18	21	
Obscene Words, Talk, or Pictures	0	12	18	21	

Directions for scoring. Transfer the numbers you have marked for the different items to the right hand column headed Score. Add the numbers to secure the total score and record the total in the upper right hand corner of this sheet.

Total Score _____

FIGURE 2 Schedule A of the H-O-W Behavior Rating Schedules (Source: M. E. Haggerty, W. C. Olson and E. K. Wickman, *Behavior Rating Schedules*, New York, World Book Company, 1930, p. 2)

The reliability of Schedule A was not ascertained. Schedule B, however, yielded three types of reliability coefficients: (1) rate-rater r of .86, (2) odd-even correlation of .92, and (3) the correlation between multiple of two judge ratings of one child, r of .60. The validity of the scale was obtained by correlating Schedules A and B, r of .62, and by clinical validation using children taken from the general school population and referrals to a child guidance clinic. The two groups were easily differentiated by the scale scores. The correlation between total scores and frequency of referral of children was .76.

Despite the lack of research reports for the past decade, this rating scale does have value. For the pupil it uncovers difficulties of which he may be unaware personally but which may be evident to an observer. For the teacher it can be a source of much information regarding the pupil about whom she has some concern. The data probably could be obtained from previous teachers. The danger, of course, is in passing on biases regarding a child. The weaknesses in this scale are those shared by all rating scales. Are definitions of traits adequate to ensure somewhat similar interpretations by raters? Are the judges equally and satisfactorily acquainted with the various traits in the child? How objective are the judges?

CALIFORNIA TEST OF PERSONALITY

This test, abbreviated CTP, is published by the California Test Bureau. There are five age levels with two forms for each. The inventories are available for primary kindergarten to third grade, elementary series grades 4 to 8, intermediate grades 7 to 10, secondary grades 9 to 16 (college included), and for adults. Thorpe, Clark, and Tiegs (1942-1953) developed this series.

The tests are alike in format and in the areas probed. They differ in the number of questions for each subtest. The basic rationale assumes that the individual is in a constant state of adjusting to problems. His adjusting to social and

personal demands within an acceptable framework is probed by this inventory. The adult form assesses these areas: *Personal Adjustment* which consists of (A) self-reliance, (B) sense of personal worth, (C) sense of personal freedom, (D) feeling of belonging, (E) freedom from withdrawing tendencies, and (F) freedom from nervous symptoms; *Social Adjustment* which consists of (A) social standards, (B) social skills, (C) freedom from antisocial tendencies, (D) family relations, (E) occupation relations, and (F) community relations. The forms for the earlier years differ in that they substitute school relations for occupation relations.

The *Manual* cites the conclusions of several studies as evidence of the high validity of this test. Details of the standardization populations for the five levels (primary, elementary, intermediate, secondary, and adult) for which forms are available are not given beyond the number of subjects in each. Equivalent-form reliability coefficients are consistently high for all of the forms and levels of the CTP.

In an earlier article Tiegs *et al.* (1911) discussed the origin of the test items. They drew up 1,000 statements and submitted them to teachers, counselors, test experts, employers, and personnel directors for their estimates as to the appropriateness of the items for eliciting personal data, as bases for evaluating adjustment, and for their answerability.

An interesting feature of the questions in this series is their indirect approach to eliciting information, i.e., instead of the direct question, "Do you hate people?" the student is given an opportunity for saving face or rationalizing by being asked, "Are certain people so unreasonable that you hate them?" In this way, the test authors feel, the younger subjects and adults are freer to respond more truthfully to the less socially acceptable questions. Each item is answered by selecting either Yes or No. A scoring key indicates the desirable responses. The norms are percentile equivalents for the raw scores in all sections. The higher percentiles indicate better adjustment. In the revised form one side of the answer sheet has a large profile form for the 15 separate scores, including total adjustment (see Figure 3). Strengths and weaknesses



California Test of Personality
Intermediate Form AA

Name Williams, John
School Hamilton Jr. High C-7

Grade 76
Date of Test March 8, 1953

Date of Birth Sept. 12, 1940
Student's Age 12 Years

DEV. S. BY WILLIAM THORPE, W. T. CLARK, F. W. TIGGS, AND LOUIS P. THORPE, ESQUIRE, MASS. SHARP, 207

TOTAL (A-F)		TOTAL ADJ	
13	50	107	10
11	50		
12	50		
12	40		
7	5		
12	50		
67	30		

See Manual for Instructions.

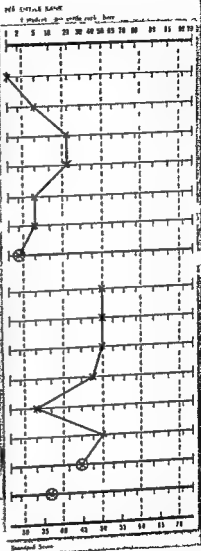


Figure 3 Profile Record for One of the Student Forms of the California Test of Personality
(Source: E. W. Tiggs, W. W. Clark, and L. E. Thorpe, Manual of the California Test of Personality, Los Angeles Calif., California Test Bureau 1953 p 12)

of the individual, as evaluated by this questionnaire, may be seen at a glance.

The school forms are practicable for instituting remedial procedures to help youngsters adjust. The adult forms find application in clinical and industrial situations. Care must be used, however, in the interpretation of the test data in view of the need for continued validation. There is no question regarding its usefulness for teasing out the subject's reactions to the various aspects of self-adjustment and social adjustment. This information facilitates clinical follow-up.

The reviews in Buros (1953, pp. 55-58) are generally unfavorable with regard to the validity and reliability of the CTP. Skidmore and McPhee (1951) find that the major value of this questionnaire is in pinpointing problems and establishing rapport with counselees, thus leading to an easier discussion of personal and marital problems. Lundgren (1952) emphasizes the already known fact that motivation can easily color test results, and it may actually be measuring culturally accepted stereotypes rather than real problems of personal and social adjustment. While this is a constant problem in psychological testing, it cannot be assumed that all testees are always motivated to gild the lilly—the problem is one of deciding whether the particular testee is doing so *and why?*

CLASSIFICATION INVENTORY

This device was developed and published by Jurgensen (1950) to meet industry's need for a selection tool that would resist faking by the motivated applicant and would be patterned on an industrial population. Jurgensen objected to the trait approach of the existing personality tests. He felt that assessing an important aspect of an occupation would be more appropriate. With this in mind he evolved a forced-choice technique, the first of its kind. In this method the testee must select from among several alternatives rather than simply choosing between Yes and No (see below). The test consists of five parts, three with items of the triadic variety,

1 c three alternatives are presented with instructions to choose the one liked most and the one liked least in each triad

- 1 People who wear
- | | | |
|-------------------|---|---|
| Soiled clothes | M | L |
| Unpolished shoes | M | L |
| Unpressed clothes | M | L |

The other two parts contain paired items in which the testee marks his preference with an X (slight preference) or XX (strong preference)

Work out a problem

Alone _____

In conference _____

The inventory assays the job applicant's ideas with regard to persons who are considered irritating the kind of reputation the applicant would like to have personal likes and dislikes personal preferences with regard to a wide variety of activities and (somewhat like the first) the type of person disliked The aim is to ascertain the nature of the personal reactions and attitudes compatible with a particular industrial situation and to set up the norms and critical scores essential for good hiring risk

Jurgensen has no norms He recommends that each industrial organization study its unique needs with regard to acceptable personnel Complete instructions are given for suitable procedures for establishing norms with the triadic and paired items for obtaining item validity reliability criterion groups and for establishing cutoff points

This inventory is exceptional in that its scoring and application are left to the judgment of the user Jurgensen is fully aware of this looseness and suggests controlled research with this test Mais (1951) reported a high degree of reliability despite the precautions taken by Jurgensen Longstaff and Jurgensen (1953) had two student groups take the test under three conditions honest fake good overall and fake high self-confidence They too found that faking was

possible. They cautioned, therefore, that the test not be used in situations where individuals appeared motivated to present a good self picture. In an industrial situation with a job, transfer, or promotion at stake, lack of motivation would be a rarity.

CORNELL INDEX

Originally a military psychiatric screening device (Weider *et al.*, 1914), the present questionnaire, CI Form N2 is designed for use with adult civilians and is published by The Psychological Corporation (Weider *et al.*, 1919).

The CI Form N2 consists of 101 questions to be answered by encircling Yes or No. The items are quite direct in probing into psychological and psychosomatic complaints. Actually there are 10 areas of inquiry as shown in Table 10.

TABLE 10 Grouping of Items on the Cornell Index, Form N2

	Questions
Introductory neutral question	1
Questions concerning	
Defects in adjustment expressed as feelings of fear and inadequacy	2-19
Pathological mood reactions, especially depression	20-26
Nervousness and anxiety	27-33
Neurocirculatory psychosomatic symptoms	34-38
Pathological startle reactions	39-46
Other psychosomatic symptoms	47-61
Hypochondriasis and asthenia	62-68
Gastrointestinal psychosomatic symptoms	69-79
Excessive sensitivity and suspiciousness	80-85
Troublesome psychopathy	86-101

SOURCE: A. Weider *et al.*, *Cornell Index, Manual*, New York, The Psychological Corporation, 1949, p. 5

The format is similar to most paper and pencil personality questionnaires. The test is scored by a simple key. Three methods of using the CI scores are suggested, depending on the purpose of testing. A score of 23 screens out about half of the individuals with serious neuropsychiatric and psycho-

somatic complaints. A reduced critical score of 13 yields a higher number of persons with neuropsychiatric and psychosomatic symptoms but also includes a higher number of false positives. A cutoff score of 13 plus one or more "stop questions" (there are 12 such questions, e.g., '32 Did you ever have a nervous breakdown?' or '93 Do your enemies go to great lengths to annoy you?') (Weider *et al*, 1948) is alleged to screen out the clients reporting especially significant information indicative of serious psychological difficulty. A study of the data contradicts this, furthermore, false positives are obtained too. Percentile norms for 1,298 male and female college freshmen are also available.

The validity of CI Form N2 rests on the psychiatric opinions made at military induction centers on 400 male rejectees and 600 acceptances. In effect this is the method of contrasting psychiatrically defined groups. Weider *et al* (1948) contend that the ability of this inventory to differentiate between psychiatric rejectees and those who were accepted at different cutoff points is its best validity criterion. They feel that the individual's responses to the questions on the CI Form N2 screen out psychiatrically ill persons almost as well as does the psychiatric interview. This of course, places a heavy burden on the validity of the psychiatrists' decisions with regard to the emotional fitness of the interviewees. The use of "stop questions" is presumed to increase the productivity of the Index, but it serves only to increase the chances of including a larger number of mentally healthy testees in the psychiatrically undesirable group. Correlations with selected clinical scales of the MMPI range from .07 to .69.

The validity for this particular form is not established beyond some doubt. There is no evidence of its value for selecting *potential* psychiatric misfits. Moreover, a future standardization population should be drawn from civilians not faced with induction into military service, a situation wherein singular motivation may play an important role. Correlation with MMPI scales should not be accepted as *prima facie* evidence of validity if only because it cannot be

assumed that both tests measure the same facets of personality. The Kuder Richardson reliability is .95. Despite the usual paper and pencil personality test weaknesses, it does grossly indicate the presence of psychiatric and psychosomatic complaints. These have to be verified by other means. This suggests the major use for this test—is an adjunct to the clinical interview since it affords specific information regarding the testee's complaints and areas of difficulty as they are perceived.²

Research with this test by Felton (1949) showed among other considerations that it could screen out poor work risks in that an extreme score indicated the need for individual study of the applicant. Weider and his co-workers (1948, p. 5) did not recommend the Index "as a criterion by which employees are hired or discharged" rather it should signify the need for further personality assessment. Noll (1951) confirmed an already established weakness that the test was extremely vulnerable to simulation especially in view of its simplicity and lack of subtlety. Frinkle (1952) used the CI Form N2 to establish a relationship between emotional introversion and high incidence of somatic complaints. This supported the clinical observation that psychological repressors and suppressors i.e., emotionally inhibited persons expressed the emotions attached to unacceptable ideas through bodily systems and therefore were more likely to develop somatic complaints than the emotionally labile or extroversive individual. Finally Barry and Raynor (1953) successfully predicted the psychiatric fitness of 74 percent of the 1,093 cadets screened with this test.

COWAN ADOLESCENT ADJUSTMENT ANALYZER

The major purpose of this test is to obtain an objective expression of adolescents in regard to their attitude to various life situations (Cowan, Barnabas and Mueller, 1949, p. 2). Because it surveys nine areas the information

² Brodman *et al.* (1949, 1952) have taken portions of the CI Form N2 and included them in the Cornell Medical Index Health Questionnaire as a further adjunct for the medical practitioner's information regarding the patient.

elicited is helpful for analyzing the adolescent's perceptions of at least these facets of his life. The nine categories are fears, family emotion and the authority constellation immaturity, feelings of inadequacy, nonfamily authority and the adjustive devices such as escape, neurotic symptoms and compensation. Each of these areas is important as a functional aspect of the total life space. The family and its concomitant authoritative meaning for the adolescent for example, is a major source of conflictual attitudes and behavior which may be reflected in other phases of everyday life activities. It is essential that the sources of irritation be made known to the counselor when dealing with youngsters experiencing undue stress in an ordinarily turbulent period of life. Certainly it would be helpful to know the adjustive mechanisms at work as the teenager attempts to cope with the multitude of problems—social, biological, physical, and personal—that assail him.

The test, published by the Bureau of Educational Measurement of the Kansas State Teachers College, is self-administered and self-marking. The answers to the statements may be profiled since the arrangement is such that all items for a category are placed together, viz., Category I, Fear, items are across the top row 23, 24 1, 2, 74 75 76 48 49 and 50 and may be read off in sequence. Originally this test contained 201 questions. It was revised, submitted to 1,150 high school students, and published in its present form, Form 2, with 97 questions.

The validity criterion consisted of socially defined groups rather than subjects classified by systematic psychology or psychiatry. The answers of selected deviate groups of adolescents—delinquents and those from broken homes—were compared with an unselected group of teenagers. Each group constituted a homogeneous set of subjects defined by an outside criterion and thus acceptable for validation purposes.⁴

⁴The delinquent group consisted of youngsters whose behavior brought them in contact with a duly constituted agency of society. The broken homes group was drawn from children not in the homes of their natural parents and who did not have a history of delinquency. In an indirect way this is the method of contrasting groups by social definition.

The norms are expressed in qualitative or descriptive terms. The tester does not check scores on a table. Rather, the total inventory must be analyzed with regard to the individual's responses to the questions in each category. The very purpose of the Adolescent Adjustment Analyzer presupposes this approach to the use of the testee's answers. The omission of quantitative scores encourages the intensive analysis of the adolescent's perceptions of himself in relation to his life space. While this limits the usefulness of the test as a mass screening device, it does enhance its value for the client-centered clinical psychologist who is interested in the specific areas of difficulty of the teen-aged testee. Reliability data is not reported in the test *Manual*.

DETROIT ADJUSTMENT INVENTORY SERIES

Baker (1942-1952) developed two forms of the Detroit Adjustment Inventory disguised as a test of Telling What I Do (TWID) for the Public School Publishing Company. Both forms concern the reactions of students to the various aspects of their personal and social adjustment.

The first one, TWID Gamma Form, is designed for grades 3 to 6. The 198 items seek information from the subject in 16 reaction environmental areas. There are 8 items for each area (1952, p. 1).

- 1 *About catching colds*
 - A I catch colds once in a while
 - B I have not had a cold for a long time
 - C I have lots of colds every winter
- 117 *About obeying my teachers*
 - A I like to obey them
 - B I don't obey very often
 - C I do it but don't like to

The testee encircles one appropriate alternative. These are randomly placed so that the subject reads the three choices rather than giving a positional response, i.e., fixedly encircling only one letter or one position. A record blank auto-

matically scores the choices and enables the teacher to spot for each of the 16 areas the difficulties reported by the student. While quantitative scores are of some limited use, the greater value lies in the focus on the individual's reactions to environmental influences. An extremely interesting feature is the availability of remedial leaflets for each of the 16 categories in which the pupil shows particular need for help. These are designed for use by parents as an aid in the child's adjustment process—a cooperative effort between the school and the home.

Reliability data are not reported in the *Manual*. Validity has been established by the method of contrasting groups. There is a substantial and significant difference in median scores for 229 Detroit third to sixth grade boys in the regular classes and 132 boys of similar age and grade range in special classes (for deviation in personality and behavior). A cross validation study produced the same differential results.

The Alpha Form of TWID has the same general purpose for the junior and senior high school student—remedial work where necessary. The test booklet contains 120 items with 5 statements for each of the 24 personal and social problem areas (1942, p. 1).

1 *About my health*

- A I am not sick very often
- B Being sick does not worry me
- C I am never sick
- D I don't believe I will ever be well
- E My health is only fair

115 *About going to dances*

- A I think I will like it later on
- B I am too young except for school dances
- C My parents don't pay much attention
- D I often go to public dances
- E I will never want to dance

As with the Gamma version, the 5 alternatives for each item have different values and are randomly placed to reduce positional influence in replying to the test statements. The record blank and scoring key are arranged to give a con-

densed picture of the student's responses. Scores for each area range from 5 to 25, with the latter signifying best adjustment.

Validity evidence is taken from two groups—61 maladjusted boys in special classes and 27 boys and girls reported by teachers as being well adjusted. The mean scores between the two groups are significant beyond the .01 level. Baker points out that the wording of the items reduces the chances for deliberately avoiding giving truthful answers. He also feels that most persons are inherently honest and therefore do cooperate in any effort to help themselves. This begs the question of validity and merely emphasizes one of the difficulties with this kind of test—assumption of insight by the testee. Reliability data are not presented in the *Manual*. These two forms of the Detroit Adjustment Inventory need a great deal more work on their validity and reliability. They are designed to help with a social problem that is constantly in the focus of public attention, i.e., the behavior of school youngsters with problems who are expressing their difficulties in antisocial activities.

EDWARDS PERSONAL PREFERENCE SCHEDULE

This is one of the newer tests developed by Edwards (1953–1954) and published by The Psychological Corporation. The EPPS attempts to meet two serious weaknesses of paper and pencil personality inventories—the ease with which the subject can color responses in a desired direction and lack of information regarding the consistency of responses. The first of these, the tendency to deliberately respond in keeping with a predetermined motive, is handled by forcing the testee to choose between two equally desirable or undesirable statements (Edwards 1953). This is in contrast with the typical inventory in which a socially desirable choice is matched with one that is undesirable, i.e., the Yes-No alternative. Navran and Stauffacher (1955) present evidence of the extent to which the forced-choice technique in the EPPS eliminates the role of social desirability.

The second feature is the consistency score which compares the subject's answers to 15 identical sets of statements scattered randomly throughout the 225 items, e.g.

- 1 A I like to help my friends when they are in trouble
- B I like to do my very best in whatever I undertake

The testee selects either A or B. The same two statements are repeated as item 151. The choices of A or B for both items, 1 and 151, are compared with each other to see if both are answered the same way. This is done with 14 other repeated statements. The consistency score is the number of agreements in choices between the first and second of the repeated statements. Eleven or more agreements are considered significant of nonchance responsiveness i.e. that the testee is deliberating before encircling a choice and coming up with the same decisions.⁵ From this it is inferred that the other selections are being made with the same thoughtfulness and some credence may be given to the overall test responsiveness.

The schedule has 225 paired statements as illustrated above. The testee encircles his one choice on a separate answer sheet. Detailed instructions are given on the front page of the test booklet so that the test is self-administered and the booklet is reusable. A scoring template identifies the 15 pairs of items used for the consistency score. The 15 test variables are scored by counting the A's and B's separately in a prescribed manner. The raw scores for each variable are automatically converted into T-scores in the body of the profile located on the reverse side of the answer sheet. Percentile norms are available. Both can be translated into descriptive categories. Norms are given for college men and women and for adults.

The basic consideration in developing the test is to minimize the effects of social desirability. Another aspect is the

⁵ The Kuder Preference Record and the MMPI are examples of paper and pencil tests which separately incorporate these techniques. The former uses the forced choice method of responsiveness in triadic form while the latter has a variety of validity scales.

attempt to assess personality not in terms of emotional adjustment or degree of neuroticism but in behavioral and operational language which describes the needs of the individual as manifested by the subject's pattern of responses. The 15 variables or needs are not only descriptive inferences derived from the testee's responsiveness but also suggest the forces behind the individual's actual and/or potential behavior. There is no particular compulsion to classify the subject as adjusted or maladjusted, mentally healthy or ill, etc. It is a matter of trying to understand *why* the client behaves the way he does.

The *Manual* defines the following needs: achievement (ach), deference (dcl), order (ord), exhibition (exh), autonomy (aut), affiliation (aff), intraception (int), succorance (suc), dominance (dom), abasement (abr), nurturance (nur), change (chg), endurance (end), heterosexuality (het), and aggression (agg). The influence of the Murray (1938) need press system is quite obvious in the structure of the EPPS variables. Each of these needs is clearly and carefully detailed in the interpretation of the profile. Since each variable is paired with every other one, a high score on a given variable indicates that the subject has selected this one over the others quite consistently. It is this that enables Edwards to claim that a high or low score for a particular need is meaningful.

The test items originated in statements drawn up around the needs postulated by Murray. The normative group consisted of 1,509 men and women with some college training. The age range was from 15 to 59 years. The *Manual* does not give sufficient details with regard to the procedures for selecting the original and final items of the schedule. Nor is there enough data about the nature of the standardization population beyond the number, age, sex, and educational distribution.

In a discussion of the validity of the schedule, Edwards (1953, 1954) points out that the usual methods (self-rating correlated with test scores and the relationship between self-Q sorts and scores) are not satisfactory criteria. He favors

correlating the EPPS variables with other variables theoretically related to them in specified ways. Such variables, he claims, are to be found in the Taylor Anxiety Scale and the Guilford Martin Personnel Inventory. Table 11 presents the relationships.

TABLE 11 Coefficients of Correlation between the PPS Variables and the Taylor Manifest Anxiety Scale and the Guilford Martin Personnel Inventory

PPS				Guilford Martin Personnel Inventory		
Variable	Mean	SD	Taylor Manifest Anxiety	Cooperativeness	Agreeableness	Objectivity
1 Achievement	13.37	4.80	-.14	.02	-.12	.16
2 Deference	12.19	3.58	-.08	.21*	.33*	.06
3 Order	10.13	4.26	-.18	.17	.21*	.18
4 Exhibition	14.69	3.40	.18	-.08	-.14	-.17
5 Autonomy	12.71	4.79	-.09	-.29*	-.36*	-.04
6 Affiliation	16.57	4.38	.09	.08	.24*	-.05
7 Intraception	16.52	4.88	-.06	.06	.13	.12
8 Succorance	12.57	4.65	.22*	-.18	-.20*	-.39*
9 Dominance	15.47	4.94	.10	-.04	-.26*	-.01
10 Abasement	15.40	5.39	.18	.03	.33*	-.11
11 Nurturance	15.58	5.00	.07	.11	.28*	-.09
12 Change	16.30	4.52	-.07	-.02	.06	.08
13 Endurance	12.59	5.27	-.22*	.24*	.23*	.31*
14 Heterosexuality	14.13	5.90	.03	.00	-.22*	-.05
15 Aggression	11.80	4.74	.00	-.37*	-.51*	-.16
Consistency score	11.75	1.69	.08	.05	.05	.03
Mean			13.79	68.14	34.43	43.83
SD			7.21	15.96	11.15	12.34

* Correlation significant at the 5 percent level

Source: A. L. Edwards, *Manual of the Edwards Personal Preference Schedule* (New York: The Psychological Corporation, 1954), p. 15.

The correlations obtained on 106 college students are offered by Edwards as evidence of the validity of the EPPS. Edwards is not clear, however, as to which variables are related to each other. The implication of Table 11 is that the correlations marked with an * signify related variables. This may be so on a statistical basis, but one further step is neces-

ary—the logical explanation of the statistically derived data. Furthermore, four of the fifteen needs and the consistency score are not related to the variables of the other two inventories—what is the validity evidence for these? Edwards emphasizes the one major strength of his schedule—the control of social desirability as an influence in testee responsiveness (Edwards and Horst 1953). This is a notable contribution. Navran and Strauffacher (1955) have independently established the usefulness of the paired forced-choice technique in the paper and pencil personality inventory method. This new test will most likely stimulate a great deal of research. It should provide fruitful data with regard to differences among psychologically and psychiatrically defined populations. The main weakness is in the area of validity, a weakness that is shared almost universally with the other personality tests. Recent research (Allen 1957 and in press) has added normative and interpretive data.

GUILFORD SERIES OF TESTS

The application of factor analysis as a basis for test construction is illustrated by the Guilford Tests. An Inventory of Factors STDCR, Guilford Martin Inventory of Factors GAMIN, Guilford Martin Personnel Inventory, and the Guilford Zimmerman Temperament Survey. All are published by the Sheridan Supply Company.

The entire series grew out of the introversion-extroversion tests (1934). By the method of factor analysis, thirteen factors were extracted from a variety of personality tests and inventories. An Inventory of Factors STDC was built around five of these thirteen factors: Social introversion-extraversion, Thinking introversion-extraversions, Depression, Cycloid disposition, and Rhathymia.⁶ The final form consisted of 170 questions to be answered by encircling Yes, No, or ?. The r 's between self ratings and test scores for each factor ranged from .34 to .68; the same data for the correlations between

⁶ It is interesting to note that what was considered to be a single trait is further reducible to at least five factors.

associates' ratings of the subjects and their test scores varied from 08 to 70. The validity of factors T and C were least satisfactory. The reliabilities for each of the five factors ranged from .84 to .92. Norms are given for high school and college students and adults in the revised *Manual*.

The next step was to construct the Guilford Martin Inventory of Factors GMIN from five other factors: general pressure for overt activity, ascendancy in social situations (leadership), masculinity of attitudes and interests, lack of inferiority feelings and lack of nervous tenseness. The items were standardized by the method of contrasting groups, e.g. 100 students with the highest and 100 with the lowest scores were differentiated by the questions.

In its present form the abridged edition has 186 questions. It is best applied in industry. Validity data are not too satisfactory, and the authors urge that validation studies be undertaken to enhance the value of this inventory. Only factors M and N give some satisfactory validity results with an industrial population and then only in a specialized situation. Prediction of supervisory success based on these five factors is disappointing. The reliabilities range from .80 to .90.

The remaining three factors—objectivity, agreeableness and cooperativeness—formed the core of an avowedly industrial test, Guilford Martin Personnel Inventory. The nature of the items appeared to screen out the so-called paranoid suspicious person in an industrial situation. The validity of the instrument was established in terms of the agreement between prediction on the basis of test scores and assessment by supervisory personnel of the satisfactory or unsatisfactory status of employees. Split half corrected reliability coefficients were .83, .80, and .91 for factors O, Ag, and Co, respectively.

The inventory consists of 150 questions to be answered by encircling a Yes, No or ? The questions elicit testee's attitudes toward people, social institutions and himself. Scoring is quite simple, and the individual's performance on each factor may be ascertained. The degree of paranoid thinking is reflected in the testee's contact with reality (objectivity),

ability to identify with his fellow man (agreeableness), and ability to get along with others (cooperation). A sophisticated job applicant, however, can readily recognize the import of such queries and respond appropriately. While the basis for the inventory seems sensible, again the question of the criterion against which this inventory has been measured looms important.

The Guilford-Zimmerman Temperament Survey is made up of ten factors, nine discussed above and a new one composed of two traits with a high intercorrelation. The factors are: general activity, restraint, ascendance, sociability, emotional stability, objectivity, friendliness, thoughtfulness, personal relations, and masculinity. The temperament survey is actually a revised condensation of the earlier inventories.

There are 300 items to be answered by Yes, No, or ?. The entire survey is self-administering and easily scored. The test booklet is reusable since answers are recorded on a separate sheet. The items are direct statements rather than questions, and they have been so worded in the hope that more truthful replies will be forthcoming. This has not yet been established experimentally.

The norms (for the Guilford series) provide percentile, T scores, and C scores for men and women. The C-score is a normalized distribution of standard scores with a mean of 5 and a standard deviation of 2. This makes it possible to place all the testee's scores interpretively and makes comparison feasible for all the tests in this series. The scores can be profiled, a device which is helpful to the clinically oriented tester.[†]

[†] Stephenson (Buros 1953, pp 95-96) gives a cogent all too real criticism of this multifactor approach. "For the purposes for which these inventories are used it is probably better than most. We could raise, however, two methodological issues about it. Given 10 uncorrelated traits, if each is used to indicate only two grades (*above average* for the trait, and *below average*), $2^{10} = 1,021$ possible classes of temperament can be indicated. This should either provide scope enough for almost anyone who believes in the relative uniqueness of temperamental qualities, or be the despair of those who find it difficult to believe that temperament can be as complex as all this. Moreover, given the premise of 10 uncorrelated traits there must on the whole be an equal number of persons for each of the 1,021 possibilities is that not so? Thus, amongst

The validity criterion data are factorially derived in which the discrete trait clusters are identified by the nature of the items forming each. The standardization population consists of 912 students for all traits except T. A separate population is used for this factor. The reliabilities for the factors range from .75 to .85. Perry (1952) has devised an 'r gram' as an aid in graphically presenting the test findings for easier interpretation. Gilbert (1950) reports significantly high correlations between factors E (emotional stability) and A (ascendancy) with B1 N (neurotic tendency) and B4 D (dominance), respectively, of the Personality Inventory. Similar correlations exist among factors O (objectivity), F (friendliness) and P (personal relations) of this survey and factors O (objectivity), Ag (agreeableness) and Co (cooperativeness) of the Guilford-Martin Personnel Inventory.

HESTON PERSONAL ADJUSTMENT INVENTORY

This inventory is accompanied by an unusually comprehensive *Manual* (Heston 1949) which discusses the various phases in the development and interpretation of the test. It reflects a great deal of careful work. Developed by Heston and published by the World Book Company, the Personal Adjustment Inventory is designed for use with high school and college students and with adults. However there are no separate norms for noncollege adults, the reason being that these are unnecessary according to the test author.

The inventory consists of 270 items to be answered by marking Yes or No on a separate answer sheet. There are two scoring keys. The raw score for each of the six areas is the sum of significant items. These are converted into percentiles and recorded on a profile graph on the back of the answer sheet. The components of adjustment measured

2048 college students there would have to be two of each class. These are interesting geometrical speculations—deductions from the Survey's nature. No doubt something is wrong perhaps to think of temperament as so nicely and geometrically allotted amongst college students—but so it must be if this Survey is as sound scientifically as it appears to be.

by this inventory are: analytical thinking—A, degree of intellectual independence, liking for problem-solving; sociability—S, similar to extroversion of other personality inventories; emotional stability—E, the usual meaning is assigned to this component; confidence—C, a rather complex personal attribute. "Persons scoring high on 'C' make decisions readily, feel sure of the value of their own judgment, adjust easily to new or difficult situations, feel they enjoy the approval and favor of their associates, face the present and future optimistically rather than linger regretfully over the past, lack inferiority feelings, and are not dissatisfied with their physique and appearance" (Heston, 1949, p. 16); personal relations—P, a matter of the individual's attitudes toward others and understanding of their behavior; finally, home satisfaction—H, involves all that enters into healthy home relationships. Strictly speaking, some of these components are not so much personality attributes as they are descriptions of the person's adaptation to aspects of his social milieu.

The test itself was developed from original and borrowed items. The final 270 items were selected from a pool of 4,500 statements. Validity was accomplished by three methods: (1) the internal consistency of items, more explicitly the method of extreme groups, in which the retained items differentiated consistently between the subjects in both groups. (Heston apologizes for employing this validity method.) (2) Items which were *psychologically meaningful* were kept. (This is face validity, extremely subjective and not acceptable without further evidence.) (3) The use of several outside criteria, such as agreement between counselors' judgments and inventory scores and the correlation between test scores on the one hand and associates' ratings and self-ratings on the other. In general, the correlations varied widely. Kelly (Buros, 1953, p. 99) was favorably impressed with the potential for this test as a preliminary student assessment tool. The component reliabilities ranged from .80 to .91. The table of intertrait correlations did not

support the author's contention that the inventory assessed six independent adjustment components. Certainly this inventory could be as useful as any other for locating the subject's problem areas.

IPAT HUMOR TEST OF PERSONALITY

This is not a sense of humor test. Rather it is a unique approach to personality evaluation. Cattell *et al.* (1947, 1955) relate the rationale of this test to the Freudian notion of wit and humor as a means of expressing repressed material (p. 2).

Freud had argued that the dynamic tendencies enjoyed in wit are those most denied satisfaction in the surface personality. This places the present test in the class of ego defense designs aimed at giving insights regarding those unconscious needs which so frequently command the ultimate behavior of the individual. The authors developed three forms of the *humor test* to obtain personality data in a manner different from the accepted approaches. In Form A the subject chooses the funnier of 76 pairs of jokes, while in Forms B and C the degree of funniness of jokes is the method of responding.

The factors in the test stories are: debonair sexual and general uninhibitedness vs. anxious considerateness; good natured play vs. dry wit; tough self composure vs. reassurance in embarrassment; gruesomeness vs. flirtatious playfulness; hostile derogation vs. urbane pleasantness; resignation vs. impudent defiance of decency; cold realism vs. theatricalism; ponderous humor vs. neat light hearted wit; whimsical retort vs. damaging retort; mistreatment humor vs. cheerful independence; evasion of responsibility and guilt vs. anxious concern; and scorn of ineffectual male vs. rebound against feminine aggression. Form A taps the first 10 while Form B includes factors 11 and 12 (the last two above). Cattell considered these factor names as tentative and subject to change with further data. Scoring is accomplished with a stencil.

key. The raw scores are converted into standard scores either as stanines or stens^{*} and percentiles.

The test retest reliabilities range from .10 to .60 for the individual factors—a low set of values. This may not be due to the nature of the jokes alone but to the reaction of the individual to old jokes as they are read the second time. The referent is not as stable as asking the subject whether or not he has frequent headaches. Besides, there are too few items for each of the factors to give a satisfactory reliability.

For the present a major need is validity data beyond correlation with other personality inventories and further information with regard to the normative population. The *Handbook* (Cattell *et al.* 1955) does not go into these important details. Rather it is heavily weighted with technical matters on factor analysis and related topics. It is possible that too many users may resort to this test as a measure of sense of humor rather than as an attempt to evaluate personality within the conceptual framework of Cattell and his co-workers for this test.

^{*} Stanine is a condensation of standard nine—a nine point scale with the mean at 5. Sten is a ten point scale. There is little beyond convenience that dictates the choice between the two.

7. MULTIDIMENSIONAL PERSONALITY TESTS

(Continued)

MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

THIS IS THE MOST WIDELY USED PSYCHOMETRIC personality test. Hathaway and Meehl (1951) have published a volume of 799 pages devoted to the clinical use of the MMPI. It is possible here just barely to touch the high spots in the development and applications of this test. The forms published by The Psychological Corporation are (1) The individual form consists of 550 single statements printed on individual cards which are to be sorted into True, False, or Cannot Say piles. The edges of the cards are colored and punched to facilitate recording and scoring. (2) The group form is a reusable booklet of 566 statements to be answered True or False on an IBM sheet. Hand scoring is accomplished by keys for 11 scales. Two other scales are scored by prescribed counting procedures. Machine scoring is available. The inventory is designed for use with subjects 16 years of age and over.

Hathaway and McKinley (1940) were interested in devising a multiphasic device to obtain a sampling of as many segments of behavior and attitudes as possible for use in the psychiatric evaluation of a client. The original items were drawn from clinical experience with patients, psychiatric examination forms, textbooks in psychiatry, earlier personality inventories, and directions for medical and neurological case history taking. Over 1,000 items were thus re-

accumulated and then reduced to 501 by eliminating duplicates and " . . . those items which seemed to have relatively little significance for the purposes of this study . . ." (p. 219). The last statement suggests that items with no face validity as judged by the authors were dropped. These were presented on individual cards to: (1) 1,251 normal subjects 16 to 65 years of age from university and other sources who denied receiving any treatment for illness; (2) Two hundred and fifty-four medical patients with no history of obvious psychiatric involvements; (3) Two hundred and twenty-one psychiatric patients who were able to take the test. Psychiatric information regarding the patients was obtained from medical records and from neuropsychiatric staff reports. These sources provided such data as symptoms, personal problems, and diagnoses.

The persons in the normative study represented a cross section of the state of Minnesota rural and urban residents, normal, medically ill, and psychiatrically involved individuals, and those from a variety of occupations, socioeconomic status, and educational levels. Included in the latter category were high school and college students seen at the University (of Minnesota) Testing Bureau. It was not surprising, therefore, that later work with the norms derived from this conglomerate population proved to be most unsatisfactory. This was especially so when the original norms were used for categorizing special groups such as college students.

For each clinical scale (see p. 122) patients were selected from among those diagnosed as presenting symptoms characteristic of that particular condition as defined in the American Psychiatric Association's *Classification of Mental Disorders*. Thus, the method of contrasting groups was the basis for selecting items retained as significant for each of the clinical scales, i.e., "An item was selected tentatively for scale construction only if it showed a percentage frequency difference between the criterion group [patients] and the normal group which was at least twice its standard error, for most of the items selected, the differences were considerably more than twice the standard errors" (Hathaway and Mc-

Kinley, 1940, pp 256-257) After this first screening a more refined technique was employed to obtain a higher degree of discrimination between patients diagnosed for a particular clinical scale and the patient group in general These final differentiating items were integrated into the present form of the test

Hathaway and McKinley (1946) state that the validity of this inventory lies in the better than chance agreement between high scale scores and final clinical diagnoses for psychiatric admissions Guthrie (1950) obtained MMPI profiles for six diagnostic groups of patients—psychoneurosis, anxiety state and inadequate personality, psychopathic personality, asocial type paranoid schizophrenia depression, and manic conditions The distribution of scores for the four validity and eight clinical scales (excluding *Mf* and *Si*) indicated significantly different patterns distinguishing the subjects in each diagnostic category The individual profiles were given to seven experts who were able to sort them among the six diagnostic categories with a high degree of accuracy¹ Benton and Probst (1946) also investigated the relationship between psychiatric evaluation and scale scores of 70 patients They reported a significant agreement between these two assessment techniques for *Pd*, *Pa*, and *Sc* scales and no agreement for the *Hs*, *D*, *Hy*, *Mf*, and *Pt* scales The divergences in findings cannot all be attributed to the test since three other considerations contributed to the final results the composition of the patient group the psychiatric prejudices of the psychiatrists and the nomenclature used to classify the patients Until these elements are controlled the inconclusive findings cannot be permitted to make a case against the continued use of the MMPI

The validity scales are important for determining the manner in which the test data are to be interpreted The 2 or question scale indicates the extent to which there are

¹ Part of the implication from this study is that absolute scale scores are not as significant as the pattern within which the scores are imbedded The interpreter should look not only for high individual scores but for the general level of all the T scores.

excessive omissions in responses to the test. Too many blank spaces places the burden of describing the individual on fewer items. The L or lie score reveals the degree to which social desirability is influencing the testee's responsiveness. The F or validity score points to possible carelessness in replying to the statements either because of lack of adequate comprehension, recording errors, or because the testee is simply marking answers indiscriminately.² A high F score may also be due to scoring errors. The K or correction scale usually discloses a bit more information regarding the subject's test taking attitude—too defensive or too rigid and critical in the application of the items to oneself. With regard to these scales Hathaway and McKinley (1916) make it clear that the validity herein referred to has to do with "questions of attitude, candor, literacy, and the like, as these might affect the subject's responses and thus the scores on the various scales" (p. 23).

The clinical scales in general use are Hs, hypochondriasis, D, depression, Hy, hysteria, Pd, psychopathic deviate, Mf, masculinity femininity interest, Pa, paranoia, Pt, psychasthenia, Sc, schizophrenia, Ma, hypomania, and Si, social introversion extroversion. Each of these scales has a code number so that the code method of presenting MMPI data is in accordance with the technique devised by Hathaway and Meehl (1951) in their *Atlas for the Clinical Use of the MMPI*. Several scales being worked on but not yet an integral part of the inventory are Do, dominance, LBQ, low back pain, Pf, parieto frontal, Pr, prejudice, Rc, recidivism, Re, responsibility, St, social economic status, Ne, neuroticism, and two new ones by Cook and Medley (1954), Ho, hostility and Pv, pharisaic virtue.

The test retest reliability for the scales range from a low of .46 on the K scale for normals to a high of .93 on the F scale for psychiatric patients. In general, however, the test retest reliability of the MMPI is satisfactory. Rosen

² In the author's experience this usually occurs in the later portion of the test when the client becomes impatient. This in itself is a symptom of the mental health of the testee.

(1953) and Layton (1954) find convincing test retest reliabilities for their respective psychiatric and normal groups. Both report intraindividual changes from one test to the next but the general configuration of the profiles remains fairly stable. Gilliland and Colgin (1951) on the other hand have test retest and split half reliabilities of .29 to .81 with eight of the clinical scales showing r s below .70. They feel that any diagnosis based on MMPI findings should be supported by independent evidence.²

The raw scores obtained with the keys convert into T scores on the profile form that comes with the test. There are separate norms for men and women. As previously stated the later researches with the MMPI indicate differences with regard to the norms. The consensus seems to be that the original norms cannot be used with all subjects. Gilliland and Colgin (1951) find differences in mean T scores of college students and the normative population; furthermore there are wide variations in individual scale scores for three student groups from three different universities. Goodstein (1954) on the other hand analyzes the MMPI results with male undergraduates at eight different colleges and concludes that the differences among the mean scores are not significant. More important however is his finding that college men give a characteristic profile different from that of noncollege men. This is supported by J. H. Clark (1954) and Allen (in press). Tyler and Michaelis (1953) see minor variations in the *Manual* norms and those for college men and women on selected scales. It is quite apparent that the norms given in the *Manual* are too general and that some changes are necessary for large selected populations for a more meaningful interpretation of the findings.

This inventory is useful because it samples a number of personality attributes, attitudes and thought content. Clark and Allen (1951, 1952) have devised a means of item analysis which enables the interpreter to obtain a more comprehensive picture of the testee's perceptions of the forces

² This of course reflects on the validity of the MMPI since reliability is an essential ingredient in validity.

in his life space. By virtue of the large number of items alone, it affords the tester a great deal of personal information.

MINNESOTA PERSONALITY SCALE

This five part test by Darley and McNamara (1911), published by The Psychological Corporation, has separate forms for male and female students in grades 11 through college. It stems from years of university personnel work with a battery of personality tests providing thirteen separate scores.

By means of factor analysis the thirteen areas were reduced to five "psychologically meaningful" factors: I, morale; II, social adjustment; III, family relations; IV, emotionality; and V, economic conservatism. For economical and satisfactory test length those items differentiating significantly between the highest 25 and the lowest 25 scoring cases were subjected to two more modification and elimination procedures. Thus validity was approached through factor analysis, the method of extreme groups, and the reactions of personal counselors to the inventory. Split-half reliabilities ranged from 84 to 97 for men and from 91 to 95 for women.

The norms for each of the parts are based on 1,083 men and 888 women students at the University of Minnesota. The raw scores are translated into percentiles. The test is self-administering with different instructions for the parts. For Parts I and V the subject reacts to each item in terms of one of five degrees of agreement or disagreement. In Parts II, III, and IV one of five degrees of frequency of occurrence of an event or an idea is the basis for responding to statements. The name of the part generally characterizes the nature of the items for each phase of the Minnesota Personality Inventory.

There are no references to this test in the *Psychological Abstracts* for the past decade. However, psychologists who favor tests constructed in the framework of factor analysis will find that this inventory touches upon five important aspects of life.

MOONEY PROBLEM CHECK LISTS

There are six forms of this query two forms are published by the Bureau of Educational Research of the Ohio State University The four more widely used forms for adults college high school and junior high school students are published and distributed by The Psychological Corporation The developers of these tests are Gordon and Mooney (1950) The forms indicate the population for which each is designed The Problem Check List is not a test in its narrow meaning it is an opportunity for the subject to indicate sources of irritation and worry to summarize problems not listed and to evaluate chief sources of difficulty Adequate writing space is provided for the subject to elaborate on any topic Whether writing elicits ventilation as readily as verbalizing is a moot question

The adult form has 288 problems dealing with matters of health economic security self improvement personality home and family courtship sex religion and occupation Areas of some personal concern are underlined while the numbers of the items identifying the more serious problems are encircled

136 In love with someone I can't marry

212 Too easily moved to tears

288 Afraid of losing my job

A count is made of the underlined and encircled items However the total score has far less meaning than the leads furnished by particular items and the cluster of items within a given area The design of the Check List enables the user to bring together the significant items for each area This permits a sequential analysis of the testee's reactions to various items This information is valuable for counseling purposes

The preliminary list contained 490 items in 11 areas Opinions from experts in adult counseling resulted in a reduced list of 420 items in 12 areas Finally the present form emerged The purpose and design of the Mooney

Problem Check List may suggest that its validity does not seem important. Yet some basis must be established for the accuracy of this mode of ferreting out and locating foci of difficulty. It should not be assumed that the list checker is so insightful that *all* problems will be marked and that those not marked are not sources of difficulty. Its major value lies in the immediacy of its application in individual and group counseling guidance and actions programs and in research. The matter of reliability is presented as follows by Mooney and Gordon (1950 p. 9):

The problems of reliability of an instrument like the *Problem Check List* are not quite the same as those of a test for which scores are obtained.

The check list is designed to reflect the problems which a student senses and is willing to express at a *given time*. Since the problem world of an individual is a dynamic interrelation of changing situations and experiences one would expect the number of items and the specific items checked to be somewhat different at each administration of the check list—if the instrument does what it has been designed to do. The well known methods of estimating reliability such as the test-retest, split-half and Kuder-Richardson formulas assume that scores on the whole test or on the half tests are meaningful measures which reflect the standing or the competence of the individual in the area measured. It is quite clear that a *Problem Check List* count determined by the number of checks does not necessarily reflect the various intensities of the problems marked by the student; it is not a score in the usual sense of the term. Furthermore, it is obvious that two items like too tall and too short (which appear consecutively in the Health and Physical Development area) cannot reasonably be placed into halves for a split-half reliability study.

If the data are to be used to implement understanding of the *individual case*, they must be capable of reflecting changes in the circumstances surrounding the individual or changes in his feeling toward these circumstances. Shifts in item responses which reflect these changes to not invalidate the data and may well facilitate the purpose for which the check list is given.

With regard to group surveys to assay the stability of problems, the test-retest reliabilities range from .90 to .98.

The present check lists are residues from a pool of over 5,000 items collected from various sources concerned with the problems of junior and senior high school and college students. The 330 items of the college and high school forms probe problems of health and physical development, HPD, finances, living conditions, and employment, FLE, social and recreational activities, SRA, social psychological relations, SPR, courtship sex, and marriage, CSM, home and family, HF, morals and religion, MR, adjustment to college (school) work, ACW or ASW, the future, vocational and educational, FVE, and curriculum and teaching procedure, CTP. The junior high school form contains 210 items for the following seven areas: health and physical development, HPD, school, S, home and family, HF, money, work, the future, MWF, boy and girl relations, BG, relations to people in general, PG, and self centered concerns, SC.

McIntyre (1953) gave the check list to 407 high school students and also extracted relevant information from the students' school records to serve as the validity criterion. He felt that if students were aware of their problems and could check them, then the device must be a valid tool. Within the meaning of this definition of validity McIntyre found the *Problem Check List* a valid instrument.

PERSONALITY INVENTORY

This 125 item questionnaire was constructed by Bernreuter (1933) and is published by the Stanford University Press (Bernreuter, 1935). It is designed for male and female high school and college students and adults.

The test is an early representation of the revolt against the notion that behavior and trait show a one to one relationship. Bernreuter believes that all behavior may be a manifestation of more than one personality attribute in operation. This is reflected in the scoring method in which a single question contributes to more than one of the six scales (four Bernreuter and two Flanagan scales) in differing (weighted) amounts. In other words, since the *Personality Inventory*, or PI, assesses neurotic tendency, self sufficiency,

introversion-extroversion, dominance-submission, self-confidence, and sociability as personality dimensions, it presumably takes the place of at least four unitrait tests such as Thurstone's Neurotic Inventory, Bernreuter's Self-Sufficiency Test, Laird's C2 Introversion Test, and Allports' A-S Reaction Study. These are the sources of the items from which Bernreuter developed the original PI.

By the method of contrasting psychologically defined groups from an original population of 1,618 men and women, Bernreuter retained those items which differentiated between the extreme groups for each of the four personality attributes measured by the inventory, e.g., items discriminating the 50 most dominant from the 50 least dominant (or most submissive) were kept for the dominance-submission scale, and so on for each scale. The four Bernreuter scales are: B1-N, neurotic tendency; B2-S, self-sufficiency; B3-I, introversion-extroversion; B4-D, dominance-submission. The two Flanagan (1935) factors are: F1-C, self-confidence and F2-3, sociability. Questions with discriminating power for more than one scale were assigned weighted scores in proportion to their contributions to each scale.

Validity data cited by Bernreuter assume the validity of the four tests from which the items were derived. This is shown in Table 12.

TABLE 12. Coefficients of Validity

	Fall Quarter Class			Winter Quarter Class		
	N	Uncorr	Corr	N	Uncorr.	Corr.
B1-N and TN*	70	94	1.00	32	.91	.99
B2-S and SS*	70	89	1.00	46	.86	1.00
B3-I and C2*	70	76	.99	44	.69	.92
B4-D and AS (men)*	55	81	1.00	55	.67	.84
B4-D and AS (women)				29	.82	.99

*TN—Thurstone's Neurotic Inventory, SS—Bernreuter's SS Test, C2—Laird's C2 Introversion Test, AS—Allports' Ascendance-Submission Reaction Study
 SOURCE Adapted from Table II, p. 4, of *Manual for the Personality Inventory* by R. G. Bernreuter with the permission of the publishers, Stanford University Press. Copyright 1935 by the Board of Trustees of Leland Stanford Junior University.

The coefficients are very high but they do not establish the validity of the PI. Rather these r s show that the items of the tests have elicited similar responses. They do not take into account the disturbing matter of social approval and desirability as important considerations in responsiveness. The *fakability* of the paper and pencil personality tests has been established by Bernreuter himself. Subsequent studies leave little doubt regarding this major weakness of this test as well as other paper and pencil personality tests (Wesman 1952). As for validity on the basis of extreme groups the criticism is that it cannot be presumed that the items differentiate with regard to a personality variable as accurately among individuals in the middle section of the distribution curve where most of the people lie as they do for the extreme cases.

Split half reliability coefficients ranged from .78 to .91 with the higher reliabilities characteristic of the adult group. Windle (1952) surveyed the effects of retesting on personality questionnaires and found that of nine test retest reports with the PI five showed essentially no change in the retest protocol and four indicated an *indefinite* increased adjustment in the retest responses to the questions. If anything this may be interpreted as showing a fairly accurate degree of stability.

The inventory is simple to administer but hand scoring is time-consuming since there are 18 keys for the six scales. It is suggested that a Veeder counter be used to facilitate this scoring. Machine scored answer sheets are available. An individual report sheet is available with a brief explanation of the percentile scores printed thereon.

The PI is not assessing independent traits as indicated by the high correlations between introversion/extroversion and neurotic tendency, an r of .96 and an r of .58 between self-sufficiency and dominance. Dominance intercorrelates $- .83$ with neurotic tendency and $- .72$ with introversion. This opens to question the necessity for four separate scales since the neurotic tendency and introversion/extroversion scales seem to have enough in common to infer that both are meas-

At the same time it should not be so long as to defeat its purpose (5) The matter of reliability must be differently defined test retest or observation reobservation reliability may or may not be significant because of the nature of the population for whom the scales are designed, i.e., patients in mental hospitals may change rapidly between ratings Therefore reliability must be approached by having two raters assess the patient at approximately the same time The influence of these criteria can be detected in the Psychiatric Rating Scales The selected items come from an analysis of 55 symptoms rating scales The final form contains 32 symptoms rating scales which cluster about nine psychiatric entities acute anxiety, conversion hysteria, manic state, depressed state, schizophrenic excitement, paranoid condition, paranoid schizophrenic, hebephrenic schizophrenic, and phobic compulsive⁴ A descriptive statement may contribute to more than one psychiatric cluster For example, scale 19, "No evidence of social withdrawal Does not appear to seek out the company of other people Definitely avoids people," contributes to acute anxiety, depressed state, and paranoid schizophrenia Figure 4 illustrates Wittenborn's rating scales

The instructions are simple to follow The applicable scale item numbers are encircled by the rater The encircled numbers are then transferred to appropriate blank spaces The form is arranged so that the last page yields total raw scores for the nine clusters A table of equivalents provides standard cluster scores for the raw scores Median standard cluster scores for 20 different psychiatric conditions are available These are based on 812 psychiatrically classified mental hospital patients Wittenborn (1955) points out that high scores are probably more meaningful than low ones⁵ The temptation to diagnose on the basis of these scales may be attractive It should be resisted

⁴ The 1950 *Manual of the American Psychiatric Association* does not use the terms conversion hysteria and phobic compulsive in its revised nomenclature

⁵ Wittenborn (1955) cites the instance in which the ratee may have a standard cluster score of one for each of the nine clusters This profile however is almost characteristic of the normal person and the median patient diagnosed as psychoneurosis reactive depression

Patient's Name _____ Age _____ Sex _____
 Date Observations Begun _____ Date of Rating _____
 Institution _____ Word _____ Ratings Made by _____
 Instructions to Raters _____

1. Fill in the requested information in the spaces above.
2. Each scale consists of three or four descriptive statements. For each scale, select the one statement which best describes the patient's behavior and draw a circle around the number found at the right of that statement.

Scale	I	II	III	IV	V	VI	VII	VIII
1. Given no evidence of difficulty in sleeping. Without waking we may have difficulty in falling asleep or sleep is restless or spontaneously interrupted. Without noticeable long periods of wakefulness at night. Acute insomnia without obvious gain but then 4 hours sleep in 24.	0	1	2	3				
2. Proliferation of ideas (e.g., lapses of consciousness) does not appear to be accelerated. Ideas are charged conspicuously above. Ideas are in the process of rapid and constant change. Ideas change with spontaneous and unpredictably rapidly as to make sustained conversation impossible.	0	1	2	3				
3. No evidence that he imagines people (who probably are wholly indifferent to him) have an intense interest in him. Believes (without justification) that certain persons have an unusual interest in him. Believes (without justification) that a sexual union has occurred or has been formally arranged for him.	0	1	2	3				
4. No evidence for abnormal (repetitive stereotyped) thinking. Obscure thoughts none but can be handled without difficulty. Patient is able to handle obscure thoughts but only with difficulty. Cannot detach or control obscure thoughts.	0	1	2	3				
5. No evidence that patient can do himself in the past entirely unaccountably or blameworthy by Patient's own admission or refer to his own mind. Patient blames and criticizes or refers to an unaccountable and blameworthy act. Patient appears to have a delusional belief that he is an impostor or a spy or a glib person.	0	1	2	3				
Subtotals (p 1)								

FIGURE 4. Wittenborn Psychiatric Rating Scales (Source J. R. Wittenborn, Wittenborn Psychiatric Rating Scales, New York, The Psychological Corporation, 1955)

using the same personality variable. To a lesser degree this holds for the dominance and self-sufficiency scales. Moreover, a score on introversion may be interpreted as the inverse of dominance because of the high negative correlation between these two variables. The same can be said of the neurotic tendency and dominance scales. Flanagan (1935) did factor analyze the intercorrelations for the four Bernreuter scales. He concluded that these four were reducible to two factors, C or self-confidence and S or sociability of the individual. The two Flanagan factors predicted the four Bernreuter scale scores with a high degree of accuracy (see Bernreuter, 1935, Table V, p. 6). Bernreuter incorporated these two scales into his PI to give the impression of evaluating in two additional areas. This has been substantially confirmed in a study by Martin (1948) who found that the two Flanagan factors or scales, F1-C and F2-S, were the most effective measurement values in the PI.

The raw scale scores are converted into percentile ratings. Separate norms are available for high school students, college students, and adult men and women. In the 20 years of use a great deal of data has been accumulated with widely diversified groups. The two major areas of application are clinical and industrial. In both situations the emphasis is in screening, more especially in its clinical usage, to provide leads for follow up and/or counseling. In industry it has been employed for placement, transfer, and supervisory upgrading. The results are inconclusive, as is witnessed by Richardson's (1948) attempt to weight selected items to differentiate between male adult leaders in business and in social activities and Sparks' (1951) failure with this inventory as part of a foreman selection battery. Still, this continues to be one of the most widely used tests in industry.

With regard to the clinical or individual use of the test, Faw (1948) reported that the answers to the questions varied with the social situations in which the particular items were imbedded. Seven different social situations were created by verbal instructions to the testees, and they were required to answer the questions *as though* the condition prevailed at

each administration of the PI. Needless to say, the responses varied with changes in the situation. The subjects were also given the items orally and they responded in the same manner, being permitted more than a Yes, ?, or No answer. This emphasized the weakness of restrictive responsivity inherent in the present mode of replying to the inventory. It may be concluded that generalizations regarding behavior on the basis of percentile scores should be considered tenuous at best. Despite these contradictions and weaknesses, the PI is a fruitful source of information regarding the testee's perceptions of his psychosocial role.

PSYCHIATRIC RATING SCALES

This publication of The Psychological Corporation is not a personality evaluation scale in the same sense as those discussed in this chapter. It is a device whereby psychiatric patients are judged by those who are in close contact with them during the course of everyday hospital living. This enables the attending psychiatrist to obtain an up to the moment picture of the waxing and waning of symptoms and behavioral manifestations of the patient's state. The development of a scale of this nature is much more than a simple listing of behavioral observations by nurses, attendants, and doctors. Wittenborn (1951) sets up the following criteria which this kind of scale must meet for maximum usefulness: (1) It should deal with the symptomatology that is considered significant for hospitalized mental patients. (2) In order to give a sequential picture of movement, the items should be concerned with current behavior. (3) A useful scale is not dependent on the theoretical biases, professional skills, and training of the rater. Therefore the items must be noninterpretive statements that are checked as they appropriately describe the patient. (4) A scale should be applicable to all patients who are admitted to a mental hospital. This means that a scale should include relevant descriptive and symptomatic items that cut across diagnostic nomenclature and revolve around discernible behavior.

Validity does not appear to be an important consideration since the purpose of the rating scales is to provide descriptive information rather than to diagnose or to assess personality. The use or abuse of this test for any other purpose must call for validity and standardization procedures acceptable for the new purpose.

THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE

The Institute for Personality and Ability Testing has published several tests of which the 16 PF Questionnaire is the most promising as an assessment device for high school and college students and adults. The authors of the test are Cattell, Saunders, and Stice (1950-1954). There are three forms: Forms A and B with 187 questions in each and Form C with 105 items. The responses may be recorded on an IBM form for machine and hand scoring or they can be made directly in the test booklets by encircling the appropriate choice of Yes, In Between, No or (a), Uncertain, (b) or (a), In Between, (b). The examiner has the option of making this a three-choice answer test in which the testee selects one of the three alternatives for each question, or it could be a pseudo forced-choice test in which the subject is instructed never to use the In Between or Uncertain alternative, i.e., the response choice should always be between Yes and No or (a) or (b). Keys are adapted for use with a separate answer sheet and for scoring the responses recorded directly in the test booklet. A profile is printed on the booklet for easier integration and interpretation of the scores. A separate profile form is available for combining the results of Forms A and B if both have been administered to the testee. Figure 5 illustrates the test profile.

The *Handbook* has student and adult norms for use in guidance, personnel situations, and leadership selection. These norms are in the form of a 10-point scale score profile for each of twenty-five occupations, leadership indices, and five clinical syndromes. Figure 6 illustrates one occupational profile.

16 P.F. TEST PROFILE

Name _____

Factor	A	B	C	E	F	G	H	I	L	M	N	O	Q ₁	Q ₂	Q ₃	Q ₄
Form A Raw Score																
Form B Raw Score																
Form A+B Raw Score																
Standard Score																

Date _____

Age _____

Purpose of

Consultation _____



(Record any additional particular on back of this form.)

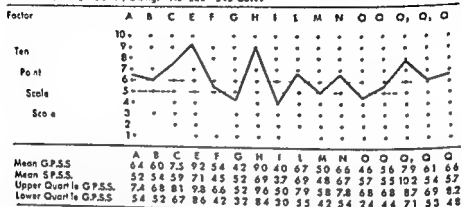
FIGURE 5 IPAT 16 PF Test Profile (Source R. B. Cattell, D. R. Saunders, and G. Sise, *Handbook for the 16 Personality Factor Questionnaire*, Champaign Ill: Institute for Personality and Ability Testing 1950-54)

In this application of the norms the profile of the testee is compared with the mean composite profiles of individuals already in the particular occupation. The purpose is to see how closely the testee's distribution of personality factor scores (and therefore personality structure) approaches the mean score distribution for the 16 factors of those adjusted to their work. The clinical norms are given for five syndromes: schizophrenics, manic depressives, neurotics, psychopaths, and convicts. Again the central concept is the extent of proximate-ness between the testee's profile and the clinical syndrome profile.

This test is not designed primarily for detecting ability or a pathological state. Its purpose, according to the authors, is 'to give the maximum information in the shortest time about dimensions of personality' (Cattell *et al.*, 1950-1954, p. 1). Thus 16 personality factors are evaluated and it is the responsibility of the interpreter to make maximum use of the information for the testee's welfare. These dimensions are described as source traits, i.e., the basic attributes

from which spring the more overt behavioral manifestations which are observable and describable. The latter are the 'surface traits'—the everyday behavior leading to personality-characterization typing by other persons in the social

1. Airmen (Pilot Cadets in Training) No. 268 243 Cases



NOTE: The following abbreviations will be used throughout:

Mean G.P.S.S. for mean on general adult population ten point score standardization

Mean S.P.S.S. for mean on student population ten point score standardization

Upper quartile G.P.S.S. for upper quartile on general adult population ten point score standardization

Lower quartile G.P.S.S. for lower quartile on general adult population ten point score standardization

FIGURE 6. Profile of Normative Data for Airmen. Source: R. B. Cattell, D. R. Saunders, and G. Stice, *Handbook for the 16 Personality Factor Questionnaire* (Champaign, Ill.: Institute for Personality and Ability Testing, 1950-54), p. 12. Acknowledgment is given to Professor Cecil Gibb, Dartmouth College, for these results.

milieu. The 16 personality factors are described in terms of their bipolar dimensionality as:

A. Cyclothymia vs. schizothymia is the degree of social interaction—getting along with people.

B. General intelligence vs. mental defect is made up of these character traits—conscientious vs. somewhat unscrupulous; persevering vs. quitting; intellectual vs. cultured vs. boorish' (p. 7). This is not intelligence per se but the effects of intellectual level on personality.

C Emotional stability or ego strength vs submission is a well known dimension since it appears in many other personality inventories⁶

F Surgency vs desurgency or depressive anxiety is some what related to the more commonly labeled dimension on the introversion extroversion continuum

G Character or superego strength vs lack of internal standards is a polyglot factor involved in C above and in the orthodox analytical concept of conscience and morality

H Adventurous autonomic resilience vs inherent with drawn schizothymia is summed up by the test authors as adventurous vs timid

I Emotional sensitivity vs tough maturity is not too definitive as a dimension. It includes self sufficiency emotional maturity frivolousness dependency and other factor loadings

L Paranoid schizothymia vs truthful altruism describes the bipolar dimension of suspecting vs accepting

M Hysteric unconcern vs. practical concernedness is a complex factor assessing the extent of responsibility felt by the individual in his affairs

N Sophistication vs rough simplicity is self descriptive

O Anxious insecurity vs placid self confidence is a clinical factor frequently encountered in many questionnaires purporting to evaluate anxiety level

Q₁ Ridicilism vs conservatism is an attempt to describe the person's temperament as it is manifested in life activities. This does not refer only to political leanings but to modes of experiencing and adapting to problems.

Q₂ Independent self sufficiency vs lack of resolution is an other factor that finds some of its loading in other factors such as C, H, and I. This will be recognized as present in other scales such as the Personality Inventory

Q₃ Will control and character stability as a dimension is related to factors C and G above. Psychologists may be reluctant to accept the label but it does describe the items contributing to this cluster

Q₄ Nervous tension is one of the traits most frequently referred to in personality testing and needs little specific definition here

⁶ It is well to bear in mind the caution of Iscoe and Lucier (1953) that it is dangerous to use different tests to measure similarly labeled traits

The *Handbook* discusses the definitions in detail, the factor loadings or contributions by specific test items, and the value of each factor for vocational and clinical interpretations.

The standardization and validation of the 16 PF Questionnaire are the product of countrywide cooperation among psychologists. Each profile is the result of a series of separate studies with appropriate populations from industry, the professions, schools, clinics, and prisons. The validity is not discussed directly as such, but some evidence is presented to indicate that profile differences are significant and useful. Corrected split-half reliability coefficients for the 16 factors range from .50 to .88. This is not too satisfactory. The authors hope that continued research will enable them to raise the validity and reliability of the factors. The *Handbook* does not indicate how the final items were selected or what procedures were employed with regard to securing the observers' trait ratings which were factor analyzed to obtain 12 of the 16 factors. Not enough validation data are included. There is some doubt of the purity of the factors as reflected in the size of the intercorrelation coefficients. The questionnaire needs further fruitful research work.

SOCIAL INTELLIGENCE TEST

A different sort of device for evaluating applied social effectiveness with emphasis on usefulness in selecting business personnel is the Social Intelligence Test, published by the Center for Psychological Services of George Washington University and prepared by Moss, Hunt, and Omwake (1930) for high school, college, and adult subjects. The essential concept behind this test is the hypothesis that harmonious interpersonal relationships are just as important to enriched living as is intelligence. In order to get along satisfactorily in social and business activities there are some basic qualities a person needs according to the developers of this test. This device purports to assay these facets of the personality.

This test consists of three parts (Moss, Hunt, and Omwake, 1930, pp. 1-6).

1 Judgment in social situations

1 You have been appointed to a position with a large firm. The best way to establish friendly and pleasant relations with your business associates would be to

_____ Avoid noticing and correcting the errors they make

_____ Always speak well of them to the boss

_____ Be interested and cooperative in your work

_____ Ask to be allowed to do those tasks which you can do better than they can

2 Recognition of the mental state of the speaker In this part the testee reads a verbal statement and then selects one of a list of 18 mental states (such as ambition despair suspicion etc) as descriptive of the speaker

() No one is able to stop me. I will do that which I intend to do or die in the attempt

The subject places in the parentheses the number which corresponds to the selected mental state

3 Part 3 includes observation of human behavior memory for names and faces and sense of humor. Each of these sub parts has items presumed to assay the personality quality

The original test has been revised. The 1914 short edition measures the above areas except memory for names and faces. The SP (special) edition assesses only judgment in social situations and observation of human behavior and is preferred for use in industrial situations. The *Manual* does not report validity or reliability data. Scoring formulae are given for each part—the higher the raw score the better the individual's social intelligence. Hunt presents details of the complete test in her book *Measurement in Psychology* (pp 335-351). Test retest reliability is .89 with college students while the equivalent form r is .85. The validity criterion consists of the subjective impression ratings of persons knowing the testees. The r between supervisory ratings and SI Test scores is .61 for one group of 98 employees. Ratings of students by teachers and fraternity and sorority associates correlated .40 with test findings. The relationship between extracurricular activity and test scores on the assumption that the more active student is more sociable and socially intelligent than his less active peer shows higher SI Test scores for the student engaging in more campus activities.

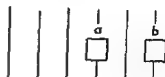
A STUDY OF VALUES

The revised edition of this test developed by G. W. Allport, Vernon and Lindzey (1951) is published by the Houghton Mifflin Company for use with college students and college trained adults. This is a modified version of the older form. It is self-scoring, has a more pleasing typographical format, and has new questions which improve the diagnostic power of the test. The test is rooted in Springer's (1928) contention that personality may be deduced from an individual's values and significant attitudes. Thus Allport, Vernon and Lindzey (1951, pp. 13-14) adopt Springer's six types of man—theoretical, economic, aesthetic, social, political, and religious—as the test theme. These types are defined as follows:

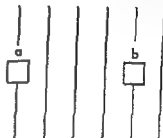
- (1) *The theoretical* The dominant interest of the theoretical man is the discovery of *truth*. Since the interests of the theoretical man are empirical, critical, and rational, he is necessarily an intellectualist. Frequently a scientist or philosopher, his chief aim in life is to order and to systematize his knowledge.
- (2) *The economic* The economic man is characteristically interested in what is *useful*. This type is thoroughly practical and conforms well to the prevailing stereotype of the average American businessman.
- (3) *The aesthetic* The aesthetic man sees his highest value in *form and harmony*. He finds his chief interest in the artistic episodes of life.
- (4) *The social* The highest value for this type is *love of people*. It is the altruistic or philanthropic aspect that is measured. The social man prizes other persons as ends and is therefore himself kind, sympathetic, and unselfish.
- (5) *The political* The political man is interested primarily in *power*. His activities are not necessarily within the narrow field of politics, but whatever his vocation, he betrays himself as a *Machtmensch*.
- (6) *The religious* The highest value of the religious man may be called *unity*. He is mystical and seeks to comprehend the cosmos as a whole, to relate himself to its embracing totality.

Forty five questions and situations such as those below are put to the subject

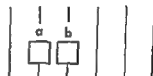
- 10 If you were a university professor and had the necessary ability you'd prefer to teach (i) poetry (b) chemistry and physics?



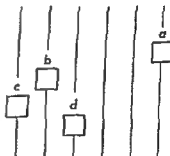
- 11 If you should see the following news items with headlines of equal size in your morning paper which would you read more attentively? (a) PROTESTANT LEADERS TO CONSULT ON RECONCILIATION (b) GREAT MOVEMENTS IN MARKET CONDITIONS.



- 28 All the evidence that has been impartially accumulated goes to show that the universe has evolved to its present state in accordance with natural principles so that there is no necessity to assume a first cause cosmic purpose or God behind it (a) I agree with this statement (b) I disagree



- 15 Viewing Leonardo da Vinci's picture 'The Last Supper' would you tend to think of it—
 a as expressing the highest spiritual aspirations and emotions
 b as one of the most priceless and irreplaceable pictures ever painted
 c in relation to Leonardo's versatility and its place in history
 d the quintessence of harmony and design



In items 10 11 and 28 the testee indicates his degree of agreement with the two alternatives on a 3 point scale while

in item 15 all four alternatives are rank ordered from 4, most preferred, to 1, the least preferred selection. In this manner, not only are attitudes and values of an individual determined for each of the six types, but also the relative strength of each value is assessed. Norms are available for college students, sex differences, male and female students in several different types of colleges and universities, and for six occupational groups. These norms are based on 851 male and 965 female college students in addition to 136 occupational students and practitioners.

The reliability of the revised Study of Values reflects the benefits of 20 years' research with the older form. The split-half reliabilities for the six values range from .73 to .90, with a mean of .82 for this form as compared with the mean of .70 for the previous form. Test retest reliability varies between .77 and .91 for each of the values—again a decided improvement over the previous form of the test. Each item contributes significantly to its value—a condition resulting from 20 years of research with the test. The authors claim that value intercorrelations are sufficiently low to warrant the statement that these values could not be further reduced to 'more basic types'.

Validity is derived from defined groups whose value characteristics are inferred from their actual and/or potential vocations. For example, the authors presume that engineering students are high in *theoretical* and *economic* values. The test data of 53 male engineering students do disclose highest scores for these two values. Thus, external validation is based on an a priori value expectancy for various groups which is subsequently supported by the actual test results for these sample populations. Indirect validation is drawn from three published research studies. These, however, are not too substantial since at least one has been seriously challenged on methodological grounds. While the previous form has had a great deal of validation work accomplished with it, the present one needs further study. This can come from a variety of sources—counseling and guidance situations, vocational selection norms, clinical studies, and nonapplied psy-

chological research. The test is a bit limited in the population for whom it is designed but it can be useful.

THURSTONE TEMPERAMENT SCHEDULE

The unique contribution of this questionnaire is its emphasis on the differences among normal well adjusted high school and college students and adults. Published by Science Research Associates, this schedule is the development of Thurstone (1949-1950). This test is another example of a factor based questionnaire designed to evaluate personality characteristics in seven areas: A active, V vigorous, I impulsive, D dominant, E emotionally stable, S sociable, and R reflective (see Thurstone's *Examiner Manual*, pp. 1-2 for definitions for each factor). Thurstone calls these seven areas of temperament. These areas are the consequences of Thurstone's refactoring of Lovell's (1945) intercorrelations of thirteen scores on three Guilford personality inventories and reducing them to seven factors. The final Temperament Schedule represents a refinement of several thousand items down to 140 questions, each to be answered by Yes ? or No. The test booklet is reusable with either hand or machine scoring answer forms. The former is self scoring and contains two normative profiles, one each for the adult and for the boy or girl subject. The raw score for each factor is translated into percentile ratings and descriptive categories for each area.

The validity procedure was oriented to selecting those items which differentiated among adjusted persons by the method of extreme groups. The population consisted of 855 college men and women, 993 high school boys and girls, and 1,036 male and female adults.

A noteworthy omission is the basis for selecting the well adjusted standardization populations. The fact that the emphasis is on normal and not pathological behavior speaks the need for an elaboration of the selection procedure. The intercorrelations among the seven factors are high and therefore do not support the alleged independence of these

agers. Split half corrected reliabilities are low ranging from .45 to .86 with most r 's below .70. Test-retest reliability coefficients vary from .61 to .82. These are low values. Thurstone calls for further work with this questionnaire to enhance its meaningfulness in various applied fields. Opinions expressed by reviewers in *Buros* (1913) are favorably disposed to regard this schedule as a research tool and with sufficient data as a personality evaluation device for normal persons.

SRA YOUTH INVENTORY

Remmers and Shimberg (1919) devised this 298 item inventory for junior and senior high school students in order to help locate areas of difficulty for these youngsters. In addition there is space on the self-scoring answer pad for the individual to elaborate on anything that comes to mind after completing the inventory. The Youth Inventory is published by Science Research Associates and represents the cooperative effort of 100 high schools and 15,000 teen-agers under the auspices of the Purdue University Opinion Panel for Young People.

This is not a personality inventory in the usual sense of the term. It is a means of obtaining the kind of information valuable to teachers, counselors, and related guidance clinic workers about the teen-ager coming for help with some personal, academic, and/or vocational problem. The areas probed are: My school; After high school; About myself; Getting along with others; My home and family; Boy meets girl; Health and Things in general. The norms reflect the frequency with which each item is checked by male and female teen-agers in grades 9 through 12 inclusive in different regions of the country by type of community, religious background, and income status. These are very helpful since the responses must be related to the significant socioeconomic and religious facets of the teen-agers' milieu. Percentile norms are also provided.

While the scores and percentile ratings are informative

the real value of this inventory is in locating the larger areas and even the specific causes of worry.⁷ For example, checking such questions as (My school, item 1) 'I have difficulty keeping my mind on my studies' may suggest any of a number of causes that need further exploration by the proper school official. Or item 23 'My teachers make fun of me' marked as a problem requires probing if school adjustment is to be achieved by the student. And so on for all the checked items.

The Purdue Opinion panel collected essays on problems by teen agers. Experts analyzed the data and a preliminary form was administered to 15,000 ninth to twelfth graders over the United States. The subjects were grouped according to sex, age, grade, socioeconomic level, religious background, type of community, and region of the country. Items were assigned to a category on the basis of a satisfactory correlation between the item and one of the eight categories. This served as one validity criterion. Other criteria were agreement of experts on the diagnostic significance of two thirds of the items (actually face validity) and a follow up of 92 students who took the Youth Inventory and were rated with regard to level of adjustment by competent school personnel. Mention must be made of the basic difficulty key which differentiated the items checked on two levels: those indicative of a basic personality disturbance and those which helped in the recognition of problems. The basic difficulty key brought to the tester's attention the checked items considered significant of more serious problems.

Jacobs (1951) found this inventory especially helpful in a routine high school testing program. Students were able to express their problems more readily and therefore succeeded in making the school guidance program more meaningful. Drucker and Remmers (1952) reported a validation study with 392 junior high school students who took the Youth Inventory and were rated for their level of adjustment.

⁷ Science Research Associates publishes a series of *Life Adjustment Booklets* used in connection with the Youth Inventory as aids for teen agers concerned about any of the eight areas.

by trained personnel. With the latter as the criterion, they concluded that six of the eight areas were adequately differentiated by the scores, i.e., the high and low adjustment groups, as judged by the raters, were, respectively, the well- and poorly adjusted groups as determined by the scores.

SUMMARY

Chapters 6 and 7 do not pretend to cover all of the multi-dimensional tests—no one book with the exception of a test encyclopedia could do this kind of job successfully. However, the tests discussed are fairly representative of the questionnaires, scales, schedules, and inventories extant and in use today. Which one or more will be used depends on the tester's theoretical position, attitudes, and convenience. The tests to be used by a particular psychologist should be those which furnish the most information regarding the testee within the framework of the purpose of testing.

Each test has its own peculiar strength and weakness. Much more attention is usually paid to the weaknesses since this is an effective mode of urging caution on the test user. On the positive side are the opportunities to ascertain the subject's perceptions of the variety of facets in the life space; of his conscious attitudes, beliefs, and self-evaluations in situations; of the need to simulate on a test; of estimates of associates; and finally of the gross and subtle leads to personal and interpersonal problems. This knowledge is useful for preventive and counseling measures in personal, social, academic, and occupational adaptation. For the applied psychologist in industry, in the clinic, and in private practice these procedures provide the cues necessary for dealing with individual and group problems. The group tests are especially valuable to agencies which handle large numbers of persons—the armed forces, school systems, and industrial organizations. The plethora of tests offered for sale is sufficient evidence of the role that paper-and-pencil personality tests have assumed in today's busy world.

Problems of satisfactory validation run through most of

the tests Reliability data are adequate for most of the inventories Not all of the manuals give proper data with regard to item selection definition of validation and standardization populations, and follow up studies elaborating on the application of test data Some of the norms are out of date and require revision within the framework of new social forms and expectancies More emphasis should be placed on the accumulation of local norms to meet somewhat unique conditions that exist in the different regions, communities, or industrial organizations of the country

The stimuli in these devices are quite fixed and the assumption by the tester is that the responses will be reflective of the same aspect(s) of reality as posited by the test constructor and accepted by the test user This may or may not hold for the testees, and in many instances the tester's objective reality (of the test stimuli and instructions) does not accord with the testees subjective reality (of the unique interpretation of the stimuli and instructions) Finally, it should be remembered that inferences from paper and pencil test data need verification by other techniques and from supplementary sources, preferably not another inventory type test As a preliminary screening survey these procedures are acceptable As the basis for serious decisions, it would be best to hesitate, pending additional valid information

RÉSUMÉ OF PART II

The use of paper and pencil tests is a controversial issue in personality evaluation, but it must be recognized that there is little choice for the busy psychologist to do otherwise The luxury of individualized attention can be afforded by the practitioner who deals with people only because the agency in which he functions has the means to permit it Industry, busy in and out patient clinics, and schools need to be selective because of the large numbers involved These

require large scale assessment programs which must start out on the screening level. This can be accomplished most economically with paper and pencil group test techniques. This type of testing program is here to stay if psychologists, counselors and personnel workers are to do an effective job. The need, then, is to improve the techniques currently available and to devise more refined modes of helping the professional practitioner to be more effective.

Improvement lies in many directions. Most important work could be done in the area of test validation. The discussions of the validity of the 39 paper and pencil personality questionnaires and scales have left reasonable doubts in many instances regarding the acceptability of the validation procedures and data. Testees' self-estimates and appraisal of the accuracy of test scores as self-descriptions are questionable criteria of validity. In these modes of validation there is no control over social desirability as an influence in judgments. Validity by means of contrasting or extreme groups, a commonly used method, is another pitfall. The resulting norms are valid for the extreme groups and it is only by inference that nonextreme scores or profiles are used to characterize the middle portions of the continuum. It would be more appropriate to derive differentiating norms on a sampling of cases all along the dimension continuum.

A related significant issue is inherent in the populations and the bases for their selection in research studies designed to assess test validity. G. F. King (1954) writes that the heterogeneity and unreliability of psychiatric diagnostic categories loom as important factors in most investigations involving the use of personality tests and personality classification. He points out that psychiatric nomenclature is so inadequate that research dependent on identified psychiatric groups is built on shifting sands. This is the argument that Frank (1955) makes not only for interindividual variations but also for those changes characterizing one person in different phases of his life cycle. These problems are not overcome by large numbers of subjects alone. Part of the solution may be seen in the approach by Wittenborn (1955) which

ulation; the ease of recording and scoring; the feasibility of subjecting test data to statistical treatment to establish quantitative norms, to artificially normalize the distribution of scores along a dimension continuum, and to establish reliability and validity for the test. A final telling point is the generally accepted notion that a paper-and-pencil tester need not be well versed in psychological theory, personality dynamics, test construction, and test interpretation in order to administer and to report on objective tests. This is an incredible attitude, but it exists. Any handling of tests and test data requires sound training in all the principles that enter into psychological evaluation and diagnosis.

PART III

The Projective Procedures

8. PROJECTIVE METHODS: HISTORY AND RATIONALE

INTRODUCTION

MANY LITERARY ALLUSIONS INDICATE THE ROLE OF private thoughts and the manner in which they influence perceptual organizations. For example, a bit of conversation between Polonius and Hamlet (Shakespeare, 1942 edition) is a familiar instance:

HAMLET Do you see yonder cloud that's almost in the shape of a camel?

POLONIUS By the mass, and 'tis like a camel, indeed.

HAMLET Methinks it is like a weasel.

POLONIUS It is backed like a weasel.

HAMLET Or like a whale?

POLONIUS Very like a whale.

Polonius, a suggestible man, readily alters his perceptions. Of special interest to the psychologist is the fact that he is an 'agreer'. He perceives his environment in whatever way appears to please Hamlet.

Leonardo da Vinci (MacCurdy, 1939), in his *Percepts of the Painter*, has some brief notes of interest to a student of modern projective techniques. He commented upon the individualistic manner in which each person looks upon his environment. Inkblots, for instance, stimulate the imagination and elicit a wide variety of perceptual responses. Sounds, also, attracted him because of the ways in which they may be interpreted. Da Vinci observed that perceptual organiza-

tions of such stimuli may serve as a potent stimulant to creative work

THE DEVELOPMENT OF MODERN PROJECTIVE TECHNIQUES

The label *projective techniques* was coined by L. K. Frank (1939) to denote certain aspects of the perceptual functions. Any materials, such as inkblots or pictures, which a person structures in such a way as to bring into expression needs, motives, emotions, past experiences, and the like constitute a projective technique. That is, the individual literally 'projects' his personality into the perceptual organization.

The label is new, but the method is very old. Poets and philosophers have commented upon this phenomenon for generations. Alexander Pope (Boynton, 1931, p. 71) wrote

All seems infected that the infected spy,
As all looks yellow to the jaundiced eye

Confucius (1907, pp. 94, 97) is said to have made two remarks of interest to the student of projective techniques

Observe a man's actions, scrutinize his motives, take note of the things that give him pleasure. How, then, can he hide from you what he really is?

The Master said: Alas, I have never met a man who could see his own faults and arraign himself at the bar of his own conscience.

Kerner (Klopfer and Kelley, 1942) is usually considered to be the pioneer in using inkblots as a psychological technique for collecting data on how individuals effect perceptual organizations and what meanings they attach to inkblots. The eminent French psychologists Binet and Henri reported their studies of responses to inkblots as far back as 1895-1896. Their research was followed by publications by such American psychologists as Dearborn (1898), Sharp (1899), and Kirkpatrick (1900).

It should be noted that Binet and Henri were primarily interested in making a study of personality differences.

Among other tests they employed a series of inkblots. They commented upon the fact that their blots elicited an amazing range of interpretations from the subjects who served in the experiments. Dearborn, apparently, was among the first psychologists to observe that responses to inkblots reveal much significant information about the respondents. His interest, however, was primarily upon the use of inkblots in a study of imaginative activities. He made 120 blots and asked college students, professors, and faculty wives to tell what they saw in each blot.

Two comments made by Dearborn in 1898 are of some contemporary interest. He wrote: 'Many ancient pigeon holes of the brain must have been searched and a comparison made with the contents of each, followed by a judgment of greater agreement in some one case, a choice thereof and the calling up and utterance of a name, which again became conscious' (p. 186). Obviously, psychology in 1898 had not progressed to a point where there was some understanding of the dynamics of behavior. He added, however, an observation to the effect that there might be an explanation for individual differences in perceiving inkblots. 'Why one subject should see in a blot a 'cabbage head' and the next an animal with his mouth open, or why a professor should be reminded by a blot of half a sweet pea blossom and his wife of a 'snake coiled around a stick' of course, no one can at present pretend to explain' (p. 190). Dearborn did see some connection between a person's occupation and the responses made to inkblots.

About a year later Sharp (1899) introduced American psychologists to the work which Binet and Henri were doing with inkblots. Sharp administered ten blots to seven students with instructions to tell what the whole or a part of the blot meant to them. Responses were written and the associations were analyzed. He made no attempt to explore the psychodynamic factors which lay behind the responses and there seems to be no interest in motivational aspects in the report.

In 1915 Whipple wrote at length of the use of inkblots and word association tests as techniques for experimental studies of complex mental processes. He was interested in reaction

times, the number of associations, and other data which might be put into a frequency table. He brought together norms for age, sex, school grade, and level of mental development. Like other early investigators who used inkblots and other association materials, Whipple did not observe that responses had any particular relationship to the personality of the subject. He used these tests to obtain quantitative data, not to gain insights into the dynamics of personality.

CURRENT HISTORY

Rotter (1952) writes that the word-association method may be the earliest procedure used in personality assessment and analysis. Among the pioneers are Galton, Wundt, Kraepelin, Münsterberg, and Jung. The greatest impetus was furnished by Jung, who reported on his use of word associations in personality diagnosis. He developed a list of 100 words, to each of which the subject was asked to respond by the first word that came into his mind. "Complex indicators" are the words which elicit unusual responses, take an unduly long time, are changed when the test is repeated, and so on.

The popular use of projective techniques, however, dates from the work of Rorschach. Under the leadership of Beck, Hertz, and Klopfer, this method has become widely known in America. Since Rorschach's original work (1921), many other association tests have been developed. Not only are there several inkblot tests, but there are also many tests that make use of pictures. In subsequent chapters these will be described in detail. At this point it is enough to note that a remarkable shift took place in the use of tests of association. Whereas the early investigators made use of them to collect qualitative data, Jung and Rorschach initiated the use of these techniques to explore the dynamics of personality.

DEFINITION OF THE CONCEPT

Projective techniques, to repeat, are any form of test materials which, being "unstructured" or minimally "struc-

tured," are organized by the individual in such a way as to reveal the dynamics of personality. An inkblot, for example, is a chance form, hence, it is said to be "unstructured." A drawing picture is "relatively unstructured." Clay, finger paints, and other materials also constitute projective techniques. The subject interprets, or uses, these things in such a way as to reveal various aspects of the personality.

The manner in which the materials are perceived and manipulated brings into expression many complexities of the individual's mental life. The principal impetus to the interpretation of the responses comes from psychoanalysis. It is quite possible to use other frames of reference, however, in the interpretation of results obtained by projective techniques.¹

"PROJECTION" AND "PROJECTIVE"

Symonds (1946, p. 587) shows the close relationship between "projection" as it is used by psychoanalysts and projective techniques. "The term projection was undoubtedly borrowed from the Freudian mechanism of projection, but it has a far weaker (and wider) connotation than the mechanism. In a projective technique there is undoubtedly a projection as the individual projects into the product of his fantasy trends which are true of his own personality and it is on this hypothesis that the whole interpretation of projective techniques is based." The noun "projection" is the generic term and covers more than the mechanism of adjustment or defense defined in psychoanalytic psychology. It refers to a process of "throwing outward" of which the Freudian attribute is one aspect. Moreover, the implied extension of the

¹ It is an interesting experience to read the reviews of those who feel that only the most orthodox of analytical notions and terminology must be applied to the interpretation of projective test data. Even less insightful are the demands for accuracy made by those who are fully convinced of the absolute infallibility of their own points of view. The evidence is far from complete, and there is no justification for claims of the right way of interpreting projective data. Granted its analytical roots, there still is a need for constantly subjecting the data and predictions of the projective protocols to controlled verification and validation.

nomorative use of the term is designed to weaken the defensive (and perhaps to some the offensive) meaning which has become attached to it. The adjective 'projective' modifying the word 'method' sets it aside as a special and quite delineated pattern of techniques related, in some way, to the process of throwing outward. This interpretation is shared by Hall (1951) who explains the usual defense mechanism of projection and then continues with "There is another type of projection which may not seem, on first thought, to be defensive in character. It consists of sharing one's feelings and thoughts with the world. One feels happy and thinks that other people are also happy, or one feels miserable and thinks the world is full of misery. Upon close analysis the defensive nature of such shared projections becomes apparent. When other people are not happy one's own happiness is endangered, because it may make one feel guilty to be happy when others are unhappy. In order to remove that threat, one attributes happiness to others as well." (p. 93) This effort to integrate the concept of projection as observed in different situations does not go far enough since it overlooks the adjective 'projective' as descriptive of a category of tests and of a method of personality exploration.

The use of the combined term "projective method" by clinical psychologists goes beyond Hall's somewhat limited mechanistic definition to connote the influence of motivation on the individual's organization and interpretation, i.e., perception, of stimuli in the life space and the response(s) thereto. This response activity motor and/or verbal, is elicited with formal test techniques such as inkblots (Allen, 1953, 1954), with vaguely structured pictures (Murray, 1943; Hartwell *et al.*, 1955), or with word associations (Rotter, 1952). Less formalized procedures include situational tests such as those given prominence during World War II (U.S. Office of Strategic Services, 1948) and drawing tests (Franck, 1954; Machover, 1948). It is important for the beginning student to be continuously aware of this differentiated use of projection and projective. One more comment: projection as a mechanism is on the level of unawareness, i.e., the individual

is lacking in self insight with regard to the anxieties, desires, and motives being attributed to others. In the projective method the degree of insight ranges from almost complete to total lack of awareness of the self referential nature of the responses produced to the stimuli. Furthermore, the point along the awareness continuum is influenced by the particular technique being used and the degree of intellectual and emotional efficiency of the subject being tested.

PROJECTIVE TECHNIQUES AND PERSONALITY THEORY

Notcutt (1953) ascribes to the projective method of personality evaluation the properties of a type theory. The major personality types emerge on the basis of the ratio between the number of human movement percepts and the total use of color (M , Sum C , *erlebnistypus* or Experience Balance). If the movement total, M , is greater than the sum of the color responses, Sum C , the subject is characterized as introjective. The reverse proportion adduces to an extraversive description. While it may be true that the Rorschach Inkblot Test was developed in the psychoanalytic context, the same may not be said for the origin of all the currently popular projective techniques. However, a survey of the literature of the various projective devices leaves the general impression that the users of these tests are not reluctant to interpret the dynamics of behavior (inferred from the test data) in psychoanalytic concepts and language.

Among the projective devices not of analytic psychology origin but is recently being dealt with in psychoanalytical concepts is the Szondi Test (Deri 1949). The personality typology is inferred from the individual's selection of pictures of men and women as being most liked and disliked. As Deri details the manner of interpretation, the ideas are related to Freudian concepts as well as to the Lewinian system of vector psychology. Deri does not consider the eight factors to be personality types in the sense that this term has been generally used. Rather she sees the interpretation of these factors 'in the concept of need tension, or tension

systems or driving force (p. 25). This meaning has been borrowed from Lewin's formulation of a dynamic theory of need systems in which, depending upon the state of tension in the various need systems of the organism, various environmental objects acquire valence character (p. 25). In keeping with these need systems, the subject identifies in some degree with the eight factors or personality types derived from systematic psychiatry. These eight factors or tension systems are homosexual, epileptic, hysteric, catatonic (λ), paranoid, depressive, and manic. In her chapter on SCH Vector and Stages of Ego Development, Derr specifically alludes to the Freudian position and integrates it into her interpretation of the factors in the *schizophrenic vector*, one of the four vectors or forces constituted by the catatonic, or λ , and the paranoid types of tension systems.

A third variation on the psychoanalytic theme in a projection technique is the Thematic Apperception Test (TAT). As originally conceived by Morgan and Murray (1935, p. 289), the rationale includes this statement: "Psychoanalysis attempts to represent the underlying dynamics of personality as an interaction of forces. Each force is a need which impels the individual person to pursue a certain course of activity—a course of activity which usually involves a certain kind of object. An inhibited or repressed force with its associated impressions of objects may manifest itself in the guise of a fantasy which the subject can report on, or its presence may be inferred by the analyst on the basis of other phenomena. The other phenomena include Morgan and Murray's method of story telling in response to a series of semistructured pictures. These themes are the events forming the bases for inferences regarding the individual's thought content or regnant preoccupations and modes of dealing with problems in life. The crux of the whole system of behavioral analysis and understanding of activity is built around the organism's need systems which determine perceptions and responses in situations. Since behavior is the end result of a consistency between need and goal, a need-integrate concept such as Murray's (1938) forms the basis for the inter-

pretation of the projective test protocol and is the essential ingredient of the projective rationale

The projective method affords the person freedom to give of himself with varying degrees of spontaneity and with consequent range in self revelation. There is an inverse relationship between the degree of control and the extent of freedom of responsiveness to a situation, i.e. freedom of response and self revealing are much more restricted in the highly structured psychometric test than with the projective technique. Klein and Schlesinger (1919) recognize the significance of the percept analytic technique for assessing personality by noting the intimate relationship between perception and behavior of an organism. They plead for a unified personality theory one which would have satisfactory explanatory value based on the response systems of the individual which include perception and are representative of the person's unity.

The essential reason for the continued interpretative use of the projective techniques is summed up in this comment by Fink (1918, p. 15). What is of major significance for understanding the individual personality is that the individual organizes experience as he warps, twists, distorts, and otherwise fits every situation, event, and person into the framework of his private world, giving them the affective significance which they must have for him in his private world. A protocol may thus be considered as a segment of behavior, a momentary picture of the total dynamic process of living. In this time-space fraction of the person's activity is depicted the manner of experiencing situations, how they are handled, and the actual or potential modes utilized for maintaining the adaptive economy or homeostasis of the functioning individual.

There is another side to the projective quality of a test. In addition to the testee's perception of the stimuli, account must be taken of the tester's manner of handling the responses. The projectiveness of any test stimuli is enhanced when the tester regards any pattern of responses to these stimuli as an expression of the testee's total personality and interprets them as such. Within this frame of reference any

plied nor the pure psychologist can lose, and all concerned with the projective method stand to gain. A more extreme point of view may be seen in Frank's comment that the projective method is concerned with the unique world of the identified individual, and therefore group norms can play only an insignificant role in an idiographic context with its stress on intraindividual factors. This point of view may run into the pitfall of overlooking the cultural and societal limits established by the group norms and necessary for giving more meaning to the individual's performance on the test.

RELIABILITY

Special note must be made of the difficulties unique to the projective method. Where scoring is less than objective the reliability of a test may not be as much at stake as the agreement among the testers—a function of their training and theoretical positions. This complicates the issue of reliability in projective techniques. In this area of test construction there is need for a new definition of reliability and for new modes of its appraisal. The test-retest method, if retest follows test too closely, is contaminated by recall of percepts. If test and retest are too far apart, the changes in conditions may be appropriately reflected in response changes so that reliability is not enhanced as measured by similar or identical percepts but the validity (or sensitivity) remains unaffected. This same criticism may even hold for retesting within a short time after the original testing. The equivalent-form approach would necessitate equivalence of scoring for the parallel forms first. This introduces the complication of having to find separate reliabilities for each test form before the overall test reliability may be attempted. The split-half technique has no place in this testing procedure since the parts (inkblots) or pictures (thematic plates) or partial drawings (Horn-Hell-ersberg Test, for example) cannot be ordered in such a manner as to justify odd-even or first half-second half correlation. Hertz (1951) suggests that reliability procedures should take into account the global nature of the test which

has no room for the orthodox method of fractionating the whole into parts and then correlating these

Ainsworth (Klopfer *et al*, 1954) raises the possibility of measuring reliability by means of comparing results obtained under varying conditions. If the data change with the conditions of testing then both reliability and validity are established because of the sensitivity of the test to the factors influencing the situation. Allen and Dorsey (1954) have investigated this possibility with specific reference to the human movement determinant in the Rorschach. Lord (1950) has varied the testing situation by introducing three types of tester attitudes into the testing procedure. Significant protocol differences support the contention that situational variations are reflected in test productivity. These changes do not vitiate the reliability of the test rather they enhance the validity and also the reliability of the technique in that they elicit the changes in the subject's system of values. In a single variable study of the consistency of Rorschach responses Allen, Manne and Stiff (1952) report that changing the nature of the stimuli i.e. the presence or absence of color in the inkblots does not influence the basic contents of the testee's perceptions. The assumption is that color in the ink blot is a superficial aspect of the situational stimuli and does not affect the essential nature of the responsiveness to this situation. F. S. Freeman (1955) and Korner and Westwood (1955) favor scorer reliability with the latter investigators reporting statistically significant argument of levels of adjustment judged from two projective tests by three experts. The consensus of serious students of the projective method is that the techniques are reliable in accordance with their own definitions of reliability which seem remarkably alike in that they reject the orthodox operation in favor of a global "it works" approach.

VALIDITY

This is intimately tied up with the discussion of reliability and is dependent upon it. The major problem is the validity

test can be considered as a projective test, e.g., the Personality Inventory could conceivably be evaluated dynamically as well as psychometrically

STANDARDIZATION

In contrast to the objective test procedures, the projective techniques do not lend themselves as readily to standardization and absolute interpretation of norms. In the Rorschach Inkblot Test the absolute number of movement responses cannot be interpreted in the same manner as an IQ rating. The context within which these responses are given, the plates eliciting them, and the nature of the movement percepts, among other factors, will be important in the elucidation of the contribution of movement engrams (memory pictures) to the understanding of the person's behavioral dynamics. Norms in terms of the numbers of each determinant are utilized by group and multiple-choice Rorschach testing or by inspection techniques such as those devised by Harrower and Steiner (1951), Munroe (1944), and Buhler *et al.* (1948). Most of the polemical heat centers about the Rorschach Inkblot Test, mainly because it is the least structured formal projective test.² It also has a longer history of inconclusive and contradictory findings than any other test.

These are the prime ingredients of standardization: a carefully selected normative population, a rigid set of directions and stimuli for test administration, and an exacting mode of scoring. All of these lead to an unbiased interpretation of the protocol. These essentials are not characteristic of any of the projective techniques to the same extent. The population can conceivably be controlled in terms of significant selective factors and the test stimuli instructions can be printed or otherwise objectively presented to testees. However, since the degree of stimulus structure is a major influence in the level of standardization and achievable by a projective test, the third requirement scoring and therefore interpretation, will

² Formal in the sense that definite albeit unstructured stimuli are presented to all testees on printed cards and in a definite sequence.

be the greatest source of variance. It appears then, that choices are made by psychologists between the objectively presented and scored projective techniques, e.g., multiple choice Rorschach, and the less rigid, customarily accepted method of administering and scoring the Rorschach, a method that brews controversies over reliability and validity. The variety of opinion ranges from the "it works" view to those who maintain that a test should not be in general use until it has reached a very high level of standardization. The former are not too concerned with the formal aspects of the test so long as it provides information regarding the testee's anxieties, needs, abilities, perceptions, and modes of handling situations. This, of course, is both plausible and a source of serious weakness. The contradictory state of the research with projective techniques is in part reflective of this position. Resolute adherence to the second point, which restricts the use of the projective, or any, test until all the answers are in with regard to its standardization, can lead only to stagnating immobility. Realistic thinking adduces to the conclusion that the first attitude is characteristic of the clinical and industrial psychologist who must meet immediate needs and at the same time gather data with a number of testees so as to approach the desideratum set up by the second group of psychologists. Frank (1948) states that this methodological problem is a function of the criteria of creditability involved, i.e., if the criteria of objective and more readily standardized tests are the ideals to be applied to *all* tests, then the controversy seems difficult, if not impossible, to solve.

Basically, all psychologists desire to have a high degree of standardization in their test procedures. But if the choice is between an immobilized state until final answers have been verified and the everyday feeling of one's way toward satisfactory answers with subsequent modifications as the evidence demands, the election will be made by each psychologist as the needs of the particular situation dictate. There is no reason to believe that only *one* way for resolving this controversy must obtain. With both procedural points of view leading to continued fruitful investigations, neither the ap-

criterion for the identified populations, i.e., the psychiatric and/or psychological definitions of the factors employed to establish the different validation groups (normal, pathological therapeutic, etc.) Cronbach (1948), in a discussion of the conventional method of validating qualitative tests (using the Rorschach as the prototype), shows how influential small coincidences are in matching protocols with persons producing them. He proposes a new procedure which is more global and reduces the role of minor superficial cues in validation studies based on matching test data with psychiatric diagnoses or with testees. In a later paper Cronbach and Meehl (1955) criticize the 'as a whole' method of validating a complex test. They claim that while evaluations and/or predictions may generally be correct (an 'it works' approach), this method of validation overlooks negative evidence unbedded in the overall impression. They insist that each inference made from a test must be separately validated rather than permitting the positive instances to carry the negative inferences by a spread of the halo effect. This is a clear call for a more intensive search for evidence to support all of the inferential rationales of the projective techniques and method.

The more popular mode of validation employs identified groups and entails the isolation of test factors, determinants, or subthema elements which discriminate at predetermined statistical levels among the groups. The difficulty with this method is that discrete elements are listed as significant with little regard for the contribution of other less noticeable test facets. This fault is attacked by factor analysis in an effort to ascertain the contribution and the clustering of known determinants. A subtype of the identified group method of validation is to induce states in subjects and note protocol differences. The criticism of this method is that it adds little to the feasibility of forward selection of groups, i.e., the assignment of an unknown individual to a group and to prediction.

Ainsworth (Klopfer *et al*, 1954) makes a good case for the clinical approach. She writes

Indeed, in the present state of our knowledge there are some hypotheses that probably can be checked only against clinical criteria. It is true that these criteria tend to be less reliable and explicit [see Ash, 1919] than would be ideally desirable and that they involve many problems of communication. It is also probably true that a mere checking back and forth between Rorschach data and clinical material can provide no definitive evidence of the interpretive hypotheses. Nevertheless, just such a checking back and forth seems at the present time to be the most promising method for refining certain of the Rorschach hypotheses towards reformulation in more precise and behavioral terms so that they can then be checked with all the proper scientific safeguards (p. 181)

Although busy clinicians have not too zealously verified their interpretations, the impression is given that judgments based on the total record are preferred over the individual or combinations of scorable elements. Realistically the clinical method is the source of validation data. If each clinical psychologist could cast himself in the role of experimenter in each testing, evaluative, and therapeutic situation with adequate controls and follow up, the matter of validation of the hypotheses in a complex test would be closer to solution. Until the last word is in, this method should be viewed in the light of a continuously developing procedure that is only partially verified at present but moving in the direction of acceptable validation as experiences, data and corroborations are subjected to analysis and integration into the expanding body of interpretive hypotheses contributing to a general theory.

ADDENDUM

The projective method offers, in varying degrees, opportunities to elicit behavioral segments that can adduce to dynamic inferences. In contrast to the paper and pencil psychometric devices, there are certain liberties taken by projective test users which are difficult to catalogue because of the

growing attitude of a lessening of controls with these techniques. This is a boon and a bane. The directions, scoring systems, and even the nature of the stimuli are opportunities for individual tester approaches although some tests such as the Rorschach Test, Thematic Apperception Test, and the Blacky Pictures, for example, have definite stimuli. The Draw-a-Person Test and other constructive techniques range in stimuli from naught but a pencil, sheet of paper, and instructions to draw a person to the unstandardized grouping of the stimuli in the World Test or the Make-a-Picture Story Test. The formal aspects of testing are, therefore, amorphous. This must lead to equally fluid scoring.³ The one area in which there is a marked advantage over the paper-and-pencil test is in test simulation. The involvement of this attribute has been discussed at length in connection with the psychometric instruments. With regard to the projective techniques the main point is that the unstructured nature of the stimuli leaves the testee bereft of known ways of behaving if he is motivated to respond in the direction of social desirability or undesirability. The usual modes are not available since the nature of the stimuli are so different from what he has been dealing with up to now. For example, a highly structured question such as, "I am more nervous than other people I know" calls for a Yes or No reply for motivated simulation. What can a similarly motivated subject respond to an inkblot? The degree of feasible faking varies directly with the extent of structure built into the test stimulus.

An advantage that is more apparent in the percept analytic tools is the opportunity afforded the testee to give more completely of himself without too ready awareness of how much he is revealing about himself. It produces much less tension to speak about characters in a picture card, or in a drawing made by the testee, or about a scene created out of puppets or

³ The next logical step would be to state that differing interpretations are forthcoming from this variation in scoring. Fortunately this does not hold as widely as one would suspect. The skilled user of projective techniques is well versed in behavioral dynamics, i.e., in the motivational inferences behind the production of a response content so that the formal scoring of a response is less important than the reason therefor.

miniature figures. This does not mean that awareness of the self-referential nature of the theme or percepts does not occasionally occur. This in itself is significant, especially with respect to the essence of the productions that follow such insights. These expressive, constitutive, interpretive, and cathartic materials (Frank 1948, pp. 42-60) are the core of the dynamic inferences regarding the individual. This is the *raison d'être* of the projective method.

SUMMARY

All of the projective instruments have been designed to appraise the structure of the personality and to afford an insight into the thought content and the ideational processes of the testee. Their particular value over the paper-and-pencil personality tests is that these projective media make it possible to interpret the psychological dynamics as reflected by the individual's behavior in the test situation. These depth-dimension diagnostic devices are firmly anchored in an empirically evolved projection theory; therefore the data elicited by these tests revolve around the individual with reference to *his own* interpretation and *his own* conception of *his* role in *his* life space. The theoretical context of projective methodology strongly supports the determined nature of behavior. For the individual the causes of his behavior lie in the internal and/or external aspects of his field as they have meaning for him.

The drive to adhere to the 'scientific' method with regard to the interpretation of human behavior has resulted in inadequately understood but neatly packaged traits, types, and factors. This is so since concentration on manifest behavior gives only part descriptions and part interpretations. The projective method considers both overt and covert components of behavior, i.e., surface and deeper-rooted expressions of the personality.

The novelist, the story teller, the artist, and the poet used the meaning of fantasy and symbols earlier and more consistently than those who studied human activity with a

scientific attitude. Perhaps the lack of experimental restraints and the freedom from the demands of verifiable evidence permitted such free rein in the interpretation of man's activities by these observers and chroniclers of the actors on the world stage. It is interesting to speculate on the reasons why the psychologists of the late nineteenth and early twentieth centuries were so little influenced by the great literary works which so well described and interpreted the human scene. Yet as psychology developed, it inevitably followed the lead of the literary social scientists'. A challenging task for the student would be to analyze the behavior and motives of the hero of Schulberg's *What Makes Sammy Run?* and the more technical description of the three persons, their drives, anxieties, and behavior, in White's *Lives in Progress*. This is not intended as a plea to leave the atmosphere of controlled scientific experimentation, research, and investigation for the completely subjective and uncontrolled methods of the novelist and poet. But a page may be borrowed from the novelist's approach to depicting human behavior and its causes and subjecting them to controlled study. This is what the present-day clinical psychologist is attempting to do with his techniques—some new, some old, and with his current phenomenological point of view. This is not entirely new but certainly it is bolder and perhaps more fruitful as he attempts to ascertain the *why* of behavior in addition to the *how* and *what*.

The matters of standardization, reliability, and validity of the projective techniques are very important to the psychologist. As yet the data lead to inconclusive statements and prolonged controversies. There seems to be some acceptance of the attitude that standardization and reliability are fairly satisfactory. The area of intense feeling is in the validity of the projective devices. This is more than a passing academic issue. It involves the continued usefulness of these tests. The contrasting groups method of validity criterion breaks down because of the difficulties in defining the populations and further because it does not apply too satisfactorily to the individual. Setting up groups on the basis of induced states is

too artificial and gives results applicable to laboratory situations but not characteristic of how most persons live and get into and out of personal difficulties. Factor analysis as a mode of establishing validity criteria results in a regrouping of quantifiable response elements which adds nothing new. The nature of the factors or clusters is still determined from the contents of the responses. It does reduce the plethora of discrete elements but cannot give them any meaning other than what the factor analyst reads into these clusters.

The pragmatic ("it works") approach of the clinical psychologist needs some leaven to hold together the facts and hypotheses garnered from a projective record. This is another way of stating that the applied psychologist needs an open-ended theory which will account for the facts and which can be modified with new evidence.

How does the projective method relate to idiography? The answer is not easily come by. Certainly, its origins in psychoanalysis cannot be denied, and the role of the psychoanalytic system in personality evaluation and theory must be given due consideration by all those who are to deal with the activity of the human organism. But any other system that focuses on the individual has a place in the interpretation of the projective data and the predictions made therefrom. Basic to the testing techniques discussed in this chapter is the rationale that the behavior of a person is an expression of his needs, attitudes, and aspirations, i.e., the motivations of the individual. It makes little difference whether this is elicited in a formal test situation with varying degrees of stimulus structure or in an informal context, e.g., the analyst's couch, real life, or simulated testing conditions, the emphasis is on the individual or the single case. From the idiographic point of view, the individual with his perceptions and subsequent behavior becomes the focus of observation.

9. INKBLOT TECHNIQUES

INTRODUCTION

THE BRIEF HISTORY OF THE PROJECTIVE METHOD presented in Chapter 8 discloses the importance of visual stimuli in eliciting fantasies. Subsequent study of this phenomenon has accumulated sufficient evidence to satisfy psychologist and poet of the efficacy of stimulating this sense modality for gaining insight into the perceiver's personality. Da Vinci's appreciation of the creative potential in chance spots of paint used random visual stimuli. Kerner's observation of the possibilities in inkblots was not picked up until the last decade of the nineteenth century when several psychologists—Binet, Dearborn, Sharp, Kirkpatrick, Whipple, and others, in this chronological sequence—employed inkblots as a means of eliciting responses from subjects. Gradually the real value of the obtained percepts emerged (see Chapter 8). Hermann Rorschach came on the scene at a time when his views on the matter could be sown in fertile soil. Since then almost every field of psychology has been subjected to investigation by the inkblot technique—especially with the Rorschach series. The impact of this approach was widespread; it was felt particularly in psychiatry, sociology, and cultural anthropology. The inkblots have been utilized in the applied and theoretical areas of these three related disciplines to good effect.

THE RORSCHACH PSYCHODIAGNOSTIC METHOD (INKBLOTS)

The Cards

The forerunners of the currently popular Rorschach ink blots are many and varied. It was not until the published work of Rorschach (1921) that a definite and standard set of inkblot stimuli came into being. Prior to this each investigator made up inkblots for use in the particular study occupying his attention. Kent still feels that this is the best method of utilizing the inkblot technique for testing imagination, intelligence, and the assessment of personality.

The Rorschach Test is the most widely used individual personality device. It can be used with young children who can just about verbalize on up to seniles. Allen (1954) has listed 1,130 bibliographic references to articles appearing in the English language journals for the period from 1927 to 1954, with the bulk of the references published in the past decade. There is no estimate of the total number of Rorschach articles in all languages.

Figure 7 illustrates a Rorschach type inkblot representative of this test and the others to be discussed in this chapter.

This series consists of ten inkblots: five colored and five noncolored. The background in each card is white with the design centered upon it. Some



FIGURE 7 Rorschach Type Ink blot (This is not one of the ink blots in any of the inkblot series)

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of the designs are symmetrical while others are not bilaterally identical (Allen, 1953) Five cards are printed in varying shades of black and gray—the achromatic or noncolored plates I, IV V, VI, and VII Two plates II and III, are printed in black and red The remaining three, VIII IX, and X are in different hues The shapes have been deliberately designed and the distribution of the colors, black, gray, and white is the result of eleven years' experimentation and belief in this method of personality analysis by Rorschach (1921) The cards are presented to the testee in a fixed sequence

Administration

The procedure is generally similar for most testers The subject is given one card at a time with instructions to tell the examiner what he sees or what the blots mean to him The directions vary from this simple statement to a more wordy one with regard to the nature of the stimulus, ink blots, and encouragement to give as many responses or to see as many things as possible These differences in instructions may account for some divergence in research findings The responses are recorded on a form such as the one shown in Figure 8

Name:		Date:		Exam by:			
Card & R. No.	Pos'n Time	Mass Stc _g	Inquiry	Loc.	Det.	Con.	P O
I 1	^ 3"	This is a blot.	Here are the wings, body & feet. Flying.	W	FM+	A	P

11 in.

8 in.

FIGURE 8 Suggested Form for Recording Sheet.

A record is kept of the time required for the first response to each inkblot (reaction time), total time for all of the responses to each plate (response time), position in which the subject held the card for each percept, and other observations regarding test activity. After permitting and encouraging the testee to free associate to each of the 10 cards during the main stage, the testee is asked to account for each response in the inquiry phase.¹ The inkblots are shown once again, and the tester asks nonleading questions to elicit information that will disclose the location of the subject's percepts on the inkblot card and the determinant(s) of the response, i.e., how the testee formulated the engram using shape, color, shading depth etc. If the necessity arises the inquiry may be followed by a testing the limits phase in which the tester is free to ask any questions regarding elicited percepts and/or to apply psychological pressure to obtain various location determinant, and content elements not given during the free association and inquiry stages. This is to be used cautiously since not all subjects can take such pressure. It does, however, give the examiner an opportunity to secure supplementary data and discloses a great deal with regard to the testee's latent and repressed ideation.

In accordance with the descriptions given below, each response is scored for its location determinant(s), content degree of originality, popularity or banality and the time elements involved. After the scoring is completed the separate elements are brought together into a summary form for interpretation. There are several individual record forms available. Some are quite elaborate and permit the recording of the responses for each card separately and summarization i.e., The Rorschach Evalograph published by the Western Psychological Services. Others are simple tabulation forms with room for summarizing and profiling the Rorschach elements i.e., The Individual Record Blank. Figure 9 illustrates a portion of the latter form.

¹ Rapaport *et al.* (1945) inquires immediately after free association to each card rather than waiting until all 10 plates have been completed.

of the designs are symmetrical while others are not bilaterally identical (Allen, 1953). Five cards are printed in varying shades of black and gray—the achromatic or noncolored plates, I, IV, V, VI, and VII. Two plates, II and III, are printed in black and red. The remaining three, VIII, IX, and X, are in different hues. The shapes have been deliberately designed, and the distribution of the colors, black, gray, and white, is the result of eleven years' experimentation and belief in this method of personality analysis by Rorschach (1921). The cards are presented to the testee in a fixed sequence.

Administration

The procedure is generally similar for most testers. The subject is given one card at a time with instructions to tell the examiner what he sees or what the blots mean to him. The directions vary from this simple statement to a more wordy one with regard to the nature of the stimulus, ink-blots, and encouragement to give as many responses or to see as many things as possible. These differences in instructions may account for some divergence in research findings. The responses are recorded on a form such as the one shown in Figure 8.

Name:		Date		Exam by:			
Card & R. No.	Pos'n Time	Main Stage	Inquiry	Loc.	Det.	Con.	P O
I 1.	A 3°	This is a bat	Here are the wings, body, & feelers. Flying	W	FM+	A	P

11 in

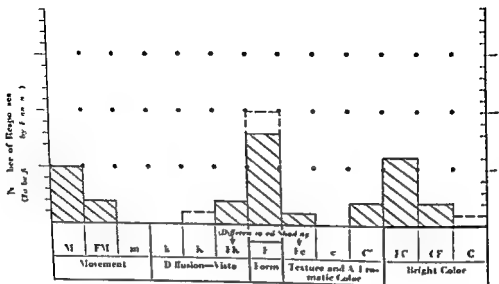
8 in

FIGURE 8 Suggested Form for Recording Sheet.

A record is kept of the time required for the first response to each inkblot (reaction time), total time for all of the responses to each plate (response time), position in which the subject held the card for each percept, and other observations regarding test activity. After permitting and encouraging the testee to free associate to each of the 10 cards during the main stage, the testee is asked to account for each response in the inquiry phase.¹ The inkblots are shown once again, and the tester asks nonleading questions to elicit information that will disclose the location of the subject's percepts on the inkblot card and the determinant(s) of the response, i.e., how the testee formulated the engram using shape, color, shading, depth, etc. If the necessity arises the inquiry may be followed by a testing the limits phase in which the tester is free to ask any questions regarding elicited percepts and/or to apply psychological pressure to obtain various location, determinant, and content elements not given during the free association and inquiry stages. This is to be used cautiously since not all subjects can take such pressure. It does, however, give the examiner an opportunity to secure supplementary data and discloses a great deal with regard to the testee's latent and repressed ideation.

In accordance with the descriptions given below, each response is scored for its location, determinant(s), content, degree of originality, popularity, or banality, and the time elements involved. After the scoring is completed the separate elements are brought together into a summary form for interpretation. There are several individual record forms available. Some are quite elaborate and permit the recording of the responses for each card separately and summarization, i.e., The Rorschach Evalograph published by the Western Psychological Services. Others are simple tabulation forms with room for summarizing and profiling the Rorschach elements i.e., The Individual Record Blank. Figure 9 illustrates a portion of the latter form.

¹ Rapaport *et al.* (1945) inquires immediately after free association to each card rather than waiting until all 10 plates have been completed.



RELATIONSHIPS AMONG FACTORS

Total Responses (R) = 28

Total Time (T) = 842 sec

Average time per response ($\frac{T}{R}$) = 30+

Average reaction time for Cards I IV V VI VII = 17

Average reaction time for Cards II III VIII IX X = 18+

$\frac{\text{Total F}}{R} = 29\%$, $F + \% = 100$

$\frac{Fh + F + Fe}{R} = 40\%$

$\frac{A + Ad}{R} = 51\%$

Number of P = 6

Number of O = 1

(H + A) (Hd + Ad) = 3 2

$\text{sum C} = \frac{FC + 2CF + 3C}{2} = 5$

M sum C = 5 5

(FM + m) (Fe + e + C) = 2 3

$\frac{\text{No. of responses to Card VIII IX X}}{R} = 30\%$

W M = 6 5

Succession

Rapid Orderly Loose Confused

(Place a check mark at the appropriate point on the scale above)

Estimate of Intellectual Level

Intellectual Capacity

Inclination and Efficiency

Very Superior

Very Superior

Superior

Superior

High Average

High Average

Low Average

Low Average

Dull Normal

Dull Normal

Feeble-minded

Feeble-minded

Note that this estimate is based mainly on the following number and quality of W number and quality of M level of form accuracy number and quality of O variety of content maximum

Manner of Approach

W (22%) D (54%) d (10%) Hd and/or S (14%)

Enter the location percentages in the spaces above. Compare these percentages with the norms shown on the box below by placing a check mark opposite the appropriate range of percentages.

W	D	d	Hd and/or S
< 10% ((W))	< 30% ((D))	< 10% (d)	< 10% (Hd S)
10-20 (W)	30-40 (D)	10-20 (d)	10-15 (Hd S)
20-30 (W)	40-50 (D)	20-30 (d)	15-20 (Hd S)
30-40 (W)	50-60 (D)	30-40 (d)	20-25 (Hd S)
40-50 (W)	60-70 (D)	40-50 (d)	25-30 (Hd S)
50-60 (W)	70-80 (D)	50-60 (d)	30-35 (Hd S)
60-70 (W)	80-90 (D)	60-70 (d)	35-40 (Hd S)
> 70 (W)	> 90 (D)	> 70 (d)	> 40 (Hd S)

FIGURE 9 The Psychograph and Summary Data Page of the Individual Record Blank (Source: B K Luper and H H Davidson *Individual Record Blank*, New York: World Book Company, 1912, p. 4)

Scoring Procedures

LOCATION This attempts to place what the subject has perceived somewhere on the blot. The range of the portions of the blot used in building a response is from the whole blot to a minor and minute detail infrequently incorporated into a percept.

Use of the entire blot is scored *W*, a large, commonly employed portion with natural lines of articulation is a *D* or large detail. Minute, minor, and unusual details are in the *Dd* category. The differentiations within this class of small details include minute details, *Dd*, rare details, *Dr*, interior details, *Di*, edge details, *De*, and oligophrenic details *Do*. Finally, the use of white space in perceiving is scored *S*. A percept built on telescoping two details into one bizarre response is a contamination, while an engram in which a small detail or part of the blot gives meaning to a larger detail or portion of the design is a confabulation. Both characterize a pathological mode of perceptual organization.

The amorphous nature of the inkblot permits a wide latitude in organizing the visual stimulus. The testee's approach to the problems represented by the unstructured inkblots is revealed in the distribution of the location scores for the 10 plates. In general, the concept which is built around the total blot, *W*, reflects richness of associative activity and the ability to deal with the overall problem, i.e. the potentiality and willingness to size up a total situation. The large or usual detail, *D*, reveals the subject's capacity for dealing with the larger, essential (common sense) aspects of a problem. In order to obtain a well rounded view of a situation the individual should be able to see the minute details, *Dd*. Each of the other kinds of small detail locations reflects a manner of addressing problems: a fertile imagination can select rare details, *Dr*, but a bizarre loss of contact with reality will overemphasize the *Dr* portion of the inkblot. A person who prefers not to become involved in a situation, or with life in general, will give edge details, *De*, expressive of the need to

remain at the periphery. The oligophrenic detail, *Do*, is usually elicited from the mentally retarded and the seriously mentally ill person. The use of space, *S*, to form a percept mirrors a negativistic trend in the personality make up of the testee, i.e., a reversal of the figure and ground which represents a tendency to go against the accepted mode of behaving. The preceding is a brief outline of the interpretive meanings assigned to the location elements. None is to be accepted as an absolute. The ultimate evaluation of a protocol depends on the relationships that exist among these location factors and how they correlate with the determinants and contents of the individual responses. For example, a testee may have an optimal distribution of *W D Dd* (in accordance with established norms) yet the contents and/or quality of the responses may be so poor as to strongly suggest serious mental pathology despite a superficially fairly well-organized approach to problems. In other words, the individual may be sufficiently intact to know how to address a situation but is unable to cope with it satisfactorily.

DETERMINANTS These are the perceptual characteristics of the response, i.e., what elements of perception either singly or in combination enter into the final engram: form, movement, shading, perspective, and color (Allen, 1954). The first of these, form or *F*, is a measure of the testee's contact with reality and the extent to which impersonal control is introduced into the interpretation of the real world. A form-determined concept is one in which the shape or contour of the selected blot area is the only factor that has contributed to its meaning for the testee. The "goodness" of the reality contact and intellectual control flow from the quality of the form, i.e., the extent to which the selected area does look like the elicited percept. Too little or too much *F* in a record reflect too imaginative or fantasizing an individual or a pedantic, meticulous and unimaginative compulsive person respectively.

Reporting apparent movement in the inkblot generally reflects the capacity for imaginative living beyond the stern realities of life. The key to enrichment of life and tolerance

for change are contained in the ability to project onto static inkblots humanlike movement or *M*, i.e., seeing such engrams as Two waiters bowing politely in plate II. Ascribing movement to animals, This is a black bat flying or gliding in the sky, for example is quite common since the blots lend themselves readily to animal type forms. This kind of movement, *FM*, is characteristic of the child who is less repressed, less intellectually controlled, and less emotionally mature. These attributes indicate a lower level of functioning for the adult, but for the child and adolescent this is expected. As the socialization process unfolds and takes root in the growing personality *FM* becomes less prominent and *M* is on the increase. This symbolizes the growth in intellect, experience, and acculturation of the individual in a social milieu. The final movement type percept, *m*, *mF*, or *Fm* (depending on the presence and priority of the form in the engram), is the imposition of a kinesthetic feeling on inanimate objects and phenomena such as blowing wind or flopping coattails. To this is assigned the villainous role of mirroring deep seated anxieties that are threatening to come to the testee's consciousness but must continually be repressed if tension is to be avoided. There are no maximal values that are normatively healthy or pathological. The interpretation is made in terms of the proximate relationship of these movement determinants to the optimal, empirically determined relationships.

The use of shading tones in formulating a response reveals significant aspects of the emotional life of the individual—each type telling a different story. Diffused shading seen as fog or clouds for example reflects a free floating anxiety while assigning a depth perspective such as an x ray or a topographical map shows the subject's attempt to give some context to this anxiety by reducing the vagueness of intangible distress. Sensitivity and even sensuousness are expressed in texture responses such as This looks like a bear skin rug. The capacity for control of impulsive behavior calls forth responses using gray as a significant determinant.

The final category of determinants is color. Recent experimental evidence strongly suggests that the role of color in

the determination of responses has either been overstressed or sadly misunderstood. The color responsivity is a reflection of the manner in which the person relates to the various aspects of his social milieu. Can the person make warm personal ties? Is he too rigid in his interpersonal relationships? Or does he become so emotionally overwhelmed in a social situation as to become incapacitated? These facets of the personality are inferred from the use of color in organizing responses to problems. Again it must be stressed that none of these determinants is considered in isolation, but each is considered in relation to the location, other determinants, and the contents.

CONTENTS This refers to the specific object, event, or organism around which the percept is built. This is a bat, is an animal content percept, and so on. In general, the variety of content is an index of the range of the subject's interests, experiences, and the extent to which he has benefited from exposure to the formal and informal aspects of everyday learning and living. This phase has many possibilities if approached from the psychoanalytic viewpoint (see Lindner, 1933, and Schafer, 1954). Popular responses show the extent of conformity while original percepts reflect high intelligence if they are well formed ($F+$) and perhaps schizophrenic involvement if the original response is bizarrely unusual ($F-$).

Interpretation

Once these data have been gathered the important task of interpretation begins. This process takes into consideration not only the absolute numbers of each of the factors in the location, determinants, contents, and originality or banality of the percepts, but also test behavior, age, sex, marital status, and educational background of the testee. It is a complex process. The formal aspects of interpretation, i.e., the absolute and relative numbers of the location, determinant, and content elements have basic meanings which are modified in the contexts (or interrelationships) within which each ele

ment and combinations of these are imbedded. This is taken from the summarized data illustrated in Figure 9.

Those psychologists who are analytically and dynamically oriented go beyond this formal interpretive procedure and analyze the Rorschach protocol sequentially, i.e., each of the responses are considered in terms of their manifest and symbolic meanings. For example, plate IV is considered to be the "father" card and is used to evaluate the subject's mode of reacting to authority or the authority figure. Thus, the actual contents of the subject's responses to this plate are viewed as revealing attitudes and reactions to the father, father substitute (boss, sergeant, teacher, or father), and manner of making adjustments demanded by these attitudes and reactions. The contents of the percepts may form a series of major and minor stories or themes. From all of this data—formal, sequential, and thematic—the personality of the individual is built up in terms of behavior, adjustment mechanisms, and predictions for future behavior.

Validity

The validation studies of the Rorschach vary from the validity of a single variable to the validation of the total or global protocol with no reference to any particular element or combination of elements. Methods used to ascertain this attribute include matching and identified groups, follow up techniques, factor analysis, and qualitative estimates of the adequacy of the test in describing the testee. Certainly the tester and the client must have some assurances that the ink blot test does ferret out plausible answers to the question of personality assessment.

Reasonably satisfactory validity has been found for this test in studies revolving around identified groups (Cox and Sarason, 1954, Allen, Stiff, and Rosenzweig, 1953), matching investigations (Palmer, 1951), and the other clinical procedures such as follow up corroboration and qualitative estimates of diagnostic adequacy and therapeutic response. Studies centered about single and multiple test variables such as the relationship between color and interpersonal ties

INKBLOT V

INSTRUCTIONS FOR INQUIRY

Put the number of your answer under any of these words if by so doing you feel you can amplify it in the way the examiner has just explained.

Shape	Color	Movement	Texture
1. 2.			1.

ALTERNATE INSTRUCTIONS FOR INQUIRY

Write anything else about your answers which you think will describe them to the examiner more fully.



Where did you see your answers? Mark off the areas on this little diagram as nearly as you can.

FIGURE 10 The Group Rorschach Blank and Inkblot V
(Source M R Harrower *Group Rorschach Blank*, New York,
The Psychological Corporation, 1913)

Write Your Answer or Answers to Inkblot V Here

Before you turn to the next page, draw a line under your last answers.

- 1 this is a black bat.
- 2 The calf of a woman's leg

Scored:

1. W Fc+ A P

2. D F+ Hd

tion, determinants, and content elements with the Group Rorschach approaches those of the individual Rorschach mode of test administration. This information is derived from testing and retesting subjects with the group and individual procedures.

Multiple-Choice Rorschach Test

A second group application is Harrower and Steiner's Multiple-Choice Rorschach Test (1951, pp. 117 ff.) in which the spontaneity of responsiveness is markedly restricted and in which inquiry and testing-the-limits are absent. The time required for testing is very short, which perhaps is its greatest and only advantage. The testees are shown the plates projected on a screen for 30 seconds, and then they are given 1 minute or so to make first and second choices from among the 30 alternatives given on the printed sheet. There are 30 selections for each of the 10 cards; these are divided into 3 units of 10 each. Each response has a previously assigned score value ranging from 1 to 10 points in keeping with the predetermined quality of the chosen percept. The accompanying tabulation shows the alternatives for inkblot 1:

INKBLOT 1²

A	B	C
<u>Underline one answer here.</u>	<u>Underline one answer here.</u>	<u>Underline one answer here.</u>
An army or navy emblem	A headless figure with arms up	A Halloween mask
Crumbling cliffs	Vertebra	Storm clouds
A hat	Tiny boxing gloves	A moth
Nothing at all	Spilt ink	Two people on a merry-go-round
Two people	Someone's insides	A bell in the center
A pelvis	Nothing at all	An X ray picture of the spine
An X ray picture	A butterfly flying	Animal heads on the sides
Pincers of a crab	Lava	The stomach
A dirty mess	A coat of arms	Nothing at all
Part of my body	An X ray of the chest	Eyes glaring at me

² Reproduced with permission from M. R. Harrower, *Harrower Multiple Choice Test*, New York: The Psychological Corporation, 1943.

The scoring system has been so designed that the higher score indicates the poorer response. It is recommended that cutoff points to differentiate among testees be set on the basis of local experience. Harrower and Steiner (1951, pp 161-207) cite the work of Due, Wright, and Wright for the application of this technique in military settings with positive results. The major suggestion offered by the authors for this procedure is the unfortunate one that untrained persons could administer, score, and use the test results satisfactorily. Some revisions of this approach are those by M. Singer (1950) and Kellman (Weider, 1953).

Blanton and Landsman (1952) find that the Group Rorschach gives stable responses upon test and retest but "the meaning attached to this stability is in doubt" (p. 267). Cronbach (1950) does not report favorably on the use of this technique and deplores the basic rationale behind this instrument. He points out that interpretations and predictions cannot be validly made on the basis of discrete Rorschach elements. A major weakness of the Group and Multiple Choice Rorschach Tests is that the context within which each element is imbedded is not a consideration. The same estimate may be found in G. M. Thompson's (1951) report with the Group Rorschach. A more recent review of the Multiple Choice Rorschach Test by Smith and George (1954) concludes that this technique does not yield satisfactory correlations with individually administered Rorschach elements and the problem of simulation readily enters into the testee's responses since pathological alternatives can be identified.

Scoring and Interpretation Modifications

In addition to the Group and the Multiple Choice Rorschach Tests, the inkblots may be scored in terms of two different systems which lead to interpretive statements. The Munroe Check List (1944) and the Basic Rorschach Score (BRS) (Buhler *et al.*, 1948-1952).

MUNROE CHECK LIST This is used in conjunction with the group and individual methods of administering the Ror-

schach inkblots Figure 11 is a reproduction of the Check List and shows the significant elements considered in this modified interpretive manner of dealing with Rorschach factors

RORSCHACH INSPECTION RECORD

Name	Age	Sex	Date of Test	Occupation	Address & Phone
Munroe Check List			Personality Description		
T R > 100 < 300 ()					
Referred (✓)					
Location	W ()	D1 ()	S ()	Ac ()	
Content	P Com ()	O ()	A Sex ()	Range ()	
Form	FB ()	F (V B E)			
Shading	Shading Stock () (✓)	FK, Fe ()	c ()	C ()	K k ()
Movement	M ()	FM, FMM ()	m ()	Total Movement ()	
Color	C for Stock () (✓)	FC ()	CF, FC ()	C>L, Ca ()	Total Color ()
Color Movement ()					
Total = sum of Colors					

Grand = sum of Colors
on Form 1000

FIGURE 11 Munroe Check List for Use with the Rorschach Inkblot Test. (Source R. Munroe, *The Inspection technique Rorschach Research Exchange*, 1948 46-70 p 70)

In this approach the protocol is culled for the various Rorschach elements and if the separate criteria are met for

each of the location, determinant, content, etc., subsections of the Check List, one of a series of coded signs is placed in the right hand column for that particular Rorschach factor. For example, if there are no card rejections, i.e., responses are given to all 10 plates, the Refusal row is *not* checked, refusal of any card calls for a check mark (✓) to be placed in the right hand column.

Another illustration of this is the Content subsection "P, Com (-)" in which a minus sign (-) is placed in the right-hand column if the subject gives three popular responses or less in the entire protocol. This is done for all of the items in the Check List by inspecting the protocol in terms of these items. The ✓, -, and + signs or checks are totaled and written in at the bottom of the form. Munroe has reported 10 as being the critical number of checks differentiating between the disturbed and the adjusted individual. The higher the sum of checks, the greater the chances of emotional maladjustment. The absence of a sign for a particular factor on the list is indicative of an expected "achievement" with regard to that element. For example, in the "Dd" row the presence of less than 10 percent of small details is considered part of the normal approach to problems and therefore no plus sign (+) is carried over to the right hand column.

Munroe (Weider, 1953, pp. 611-619) stresses the point that this mode should not be used alone but in conjunction with other tests and data.

BASIC RORSCHACH SCORE (BRS) This technique devised by Buhler *et al.* (1948, 1952) is a more extensive survey of the Rorschach protocol covering 102 aspects of the record. For example, if the number of responses for the entire record is 24 or less, the individual receives -3 Basic Rorschach Weights (BRW), 25 or more percepts yields +3 BRWs. This analysis includes many more elements, ratios, and categories of Rorschach factors than does the Munroe Check List. The BRWs are totaled, and the BRS is the algebraic result of the plus and minus weights. A Rorschach Integration Level profile accompanies the record form, and the testee's BRS is located at the appropriate point in the scale.

which ranges from -10 to $+35$. Four integration levels are specified: Reality Loss, Level IV, -16 and lower; Defect, Level III, 0 to -15 ; Conflict, Level II, 0 to $+15$; and Adequacy, Level I, $+16$ and higher.

The original BRS was standardized on eight clinical populations: normals, psychoneurotics, psychopaths, organics (brain damaged), schizophrenics, hypomanics, involutional melancholics, and a clinically mixed group. The authors claim that the BRS differentiated satisfactorily between clinical groups and suitably ranked clinical groups in terms of their integration levels. A subsequent sampling in 1949 corroborated the original data. The supplementary data also yielded new BRW's for some of the Rorschach elements and ratios.

The main advantage of this device is the concept of behavioral integration in contrast to the usual notion of disease entities. The difficulty, however, inheres in the use of a final number to describe the individual. It may be seen from Figure 12 that there is overlap between the various score continua within an integration level and among the various in-

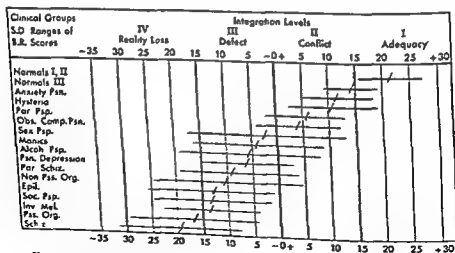


FIGURE 12 Rorschach Integration Level Record Form (Condensed, Original Version) (Source: C. Buhler, K. Buhler, and D. W. Lefever, *Development of the Basic Rorschach Score, I*, Los Angeles, Calif., The Authors, 1948)

tegration levels. Differentiation between levels I and IV is readily made, but between levels II and III, III and IV, and I and II discriminations become meaningless. Another weakness derives from the fact that the final BRS does not reveal the nature of the ingredients entering into its composition and therefore does not reflect the areas of emotional, personal, and social adjustment. A serious criticism has to do with the sharp delineation between the awarding of plus and minus BRWs: 11 or 21 or less responses score -3 BRWs, 25 or more score +3 BRWs. Thus a difference of one response may be the difference between a remark and a scorable response, has a spread of 6 points!

OTHER INKBLOT TECHNIQUES

The first series of inkblots to parallel the Rorschach are the Behn-Lschenberg plates (Zulliger, 1941). They are rarely used in this country, and the research literature is quite limited. The scoring is in Rorschach terminology and concepts (Serrate-Torrente, 1949). Buckle and Holt (1951) disclose that the structured similarity of these two sets of inkblots (the Rorschach and the Behn) leads to a similarity in responses. The same conclusion is reported by Singer (1952) who finds that matching the Behn and the Rorschach protocols of persons is accomplished with acceptable accuracy. This has implications for research with the Rorschach inkblots in that an alternate form is available as well as an experimental and control set of blots.

Howard Inkblot Test

Howard (1953) devised this set of twelve larger sized blots as a separate test and not as a parallel to the Rorschach inkblots. Whether this has been achieved is a matter for future research to determine. While the Rorschach and the Howard configurations have little in common from the point of view of structure, the notion of achromatic and chromatic plates and varying the degree of compactness and shading are

present in the six colored and six noncolored plates. The first two chromatic plates are black and red, just as in the Rorschach and Harrower series. The last two colored designs are also multicolored. The instructions to the testee, analysis of the responses into location, determinants, and content, and the general interpretation of these discrete and combined elements follow the Rorschach test quite closely. This device is too new for appraisal as to its usefulness.

Dorken Brief Projective Test

A somewhat unique approach is that employed by Dorken (1952) in his Brief Projective Test. In this procedure the testee makes his own inkblot by shaking ink from a fountain pen on a sheet of paper $8\frac{1}{2}$ by 11 inches and folding it in half. This is then presented to the subject in the usual ink blot administration manner. The advantage of this is the feasibility of retesting since different blots are produced at each session. This is not meant to replace the Rorschach Inkblot Test. The basic rationale supporting this technique is that the testee's consistency of response (his manner of perceiving problems and dealing with them) can be more significant as behavioral segments revealing personality make up are elicited by a wide variety of inkblots. The major criticism would entail questioning the meaningfulness of any validity and reliability data. Unless validity and reliability are given definitions far different from the currently accepted ones, it is difficult to see how this approach can be evaluated.

Cloud Pictures

This instigator of fantasy and imagination is as old as man and his interest in the sky above him. No one discovered or devised this technique but many have used it to while away the time. Shakespeare recognized its potential and availed himself of it effectively in his *Hamlet*.

Stern (1937) saw two major defects in the Rorschach

blots—the bilateral symmetry and the sharp delineation between the blot and the white background—as adversely affecting spontaneity of imagination because the structure led to symmetry-determined percepts. He encouraged Struve (1932) to devise cloud pictures which were irregular and covered the entire plate thus removing the two objections cited by Stern. Three plates form the Clouds Pictures series. In this technique the subject is exposed to the cards in three stages. First the testee gives a verbal report of what he sees in the cards. Second the testee outlines his percepts directly on the cloud picture card (this is a significant deviation from the Rorschach procedure although it is used by Grassi) and labels them. Third the subject is asked if he can see certain percepts to test his suggestibility. The three cards are administered one at a time and one week apart. As a psychodiagnostic device this procedure has yet to prove itself. Stern claims that it does a fairly good job of investigating imaginative processes and suggestibility. From these according to Stern and Struve certain inferences may be made regarding personality but not on the same level as the Rorschach Inkblot Test.

Three Dimensional Apperception Test (3 DAT)

A visual perception test that is different from those discussed in this chapter is Twitchell Allen's (1948) 3 DAT. In place of the inkblots or pictures the stimulus material consists of 28 plastic forms in a wide variety of sizes and shapes. The plastic objects are purposefully unstructured so that meaning can be invested in them by the testee in keeping with his needs. The movability of the pieces permits actual manipulation by the subject so that he can select some to make up a story. In these two approaches to the test materials the subject is combining the inkblot and picture story telling procedures.

The test is administered in three phases. In the first part (The Psychodramatic Test) the testee is requested to select one or more pieces from those spread out in front of him

and to build a story around them. This is recorded verbatim in the Summary Blank. The same procedure is repeated several times. In the second phase (the Naming Test), the tester points to the objects in a prescribed sequence and asks the subject to assign a name to each one. These are recorded. Finally the third part (Inquiry) calls for the testee to account for the names ascribed to the pieces. He is encouraged to elaborate on any associations to the separate plastic pieces. After this has been accomplished the tester may set up a miniature psychodrama situation by selecting the subject's names for some of the objects and asking him such leading questions as to elicit a story about each one. Twitchell Allen suggests a code for recording the pieces and the testee's gestures while handling them. Although all the elicited verbalizations are formally recorded, the method of analyzing the data is left to the individual clinician. The theoretical orientation of the psychologist will largely determine the nature of the inferences and interpretations that will be made with regard to personality structure and function. Starer's (1953) study of student nurses and female psychotics with this test shows sufficient specific differences between the two populations to recommend further research with this technique. There is not enough evidence at this time to warrant any conclusion regarding the 3 DAT. One aspect that most certainly requires investigation is the effect of tactual stimulation on the responsiveness of the subjects.

SUMMARY

The inkblot test has been the subject of a great deal of research and extremely wide clinical applications and its use has raised many more questions than this plethora of research and application has been able to answer. If it seems that confusion is the main product of these efforts, then the confusion must be described as a healthy one if it will lead to further directed inquiry. The inkblot technique is a useful one. What remains to be accomplished is to define more

sharply the phenomena and the events it assesses and refine further its evaluative and predictive ability

The Rorschach Inkblot Test is best used globally in a clinical and industrial situation. In the experimental laboratory the elements must be artificially separated for intensive study. From both approaches must emerge a better understanding of the processes that go into the perception and communication of the individual's organization of these unstructured stimuli. This in turn will lead to an appreciation of the behavioral dynamics reflected by these percepts and an insight into why the person behaves as he does.

The other inkblots follow the Rorschach prototype in administration and interpretation procedures. It is interesting to note that research with the Harrower and Behn plates is usually reported with the Rorschach as the referent. The Group and the Multiple Choice Rorschach procedures are sincere efforts to meet an ever increasing work load due to the widespread recognition of the value of psychological testing in fields other than the pathologic personality.

11) the TAT gradually has become the primary instrument for probing the thought content and ideational processes of adults. It consists of thirty plates or pictures of varying degrees of clarity and one blank card. The back of each plate identifies the subject with whom the picture may be used: B—boy, G—girl, M—male adult, F—female adult. Some cards may be administered to all testees, viz., those with no identifying letter, while others are marked F, M, B, G, BG, MF, BM, and GF, for these particular subjects.

Administration

The usual procedure is to give the test in two separate sessions of 10 plates each. Directions vary but they revolve around encouraging the testee to make up a story regarding the characters depicted on the plates—to identify them and to describe the situation and what led up to it, the thoughts, the ideas and actions of the characters in the situation, and, finally, the outcome. Ordinarily five minutes' exposure to each card is sufficient to give a series of themes at each session. The stories may be written or machine recorded (with the subject's permission) by the examiner. In some busy clinics the testee is asked to write his productions himself. The recording method is best since it gives a verbatim protocol as well as changes in the vocal presentation and leaves the tester free to observe the behavior of the individual and make necessary notes (Allen 1954). Writing the testee's stories is more widely used. This limits the completeness of the protocol and usually leaves little opportunity for clinical observations. The third technique, permitting the testee to do his own writing, has dubious value except as a time saver since it discourages lengthy and more complete reporting of thoughts, ideas, and activity as engendered by the visual stimuli. Figure 13 is a reproduction of one of the TAT pictures that is usually given to adult women (F).

Interpretation

The interpretation of the TAT protocol is as varied as the number of interpreters. The analysis can be extremely

formal in terms of Murray's (1913) need press system. In this approach the content of the story is broken down into those behavioral determinants coming from within the main



FIGURE 13 Picture 12F of the TAT Series (Source Reprinted by permission of the publishers from Henry Alexander Murray *Thematic Apperception Test* Cambridge Mass Harvard University Press Copyright 1943 by The President and Fellows of Harvard College)

character or hero (or heroine) the needs and those impinging upon the hero (or heroine) from the external environment the press. Once the hero is identified the tester must ascertain the movers to behavior (or motives) the behavioral trends and the feelings of this person. This is ac

10. THEMATIC TECHNIQUES FOR ADULTS

OVERVIEW

ONE STEP BEHIND THE INKBLOTS AS VISUAL STIMULI for eliciting responses are those techniques employing pictures of objects, events, and persons. These are generally characterized as thematic or story telling devices designed to stimulate descriptions and verbalizations reflective of the subject's thought content. The common feature of this method, the pictures, has been reproduced with varying degrees of clarity or structure. This is deliberate and forms part of the basic rationale of the particular test. In the Thematic Apperception Test (Murray, 1913) the pictures are large, in shades of gray, and quite vague. The Blacky test (G. S. Blum, 1950) pictures are very distinct in sharply contrasting black and white. The emphasis in this technique is on the ideational processes which furnish the bases for inferences regarding idiodynamics. The logic of this approach is the familiar one of affording the subject an opportunity to verbalize in a permissive atmosphere about an object, event, or person other than oneself (see Chapter 8). However, the thematic techniques are less disguised than the inkblot devices so that a testee may become aware of the self-referential nature of the contents of the stories much more readily than would be the case with the inkblots. This could lead to an impoverishment of the thematic contents, to an effort by the testee to explain the origins of the productions in books, movies, TV shows, etc., or to a frank avowal of a story as having self-reference. It is valuable to note the subject's reactions as awareness of this becomes

manifest. The problems of standardization, objectivity, reliability, and validity that are important for the inkblot techniques are similarly involved in this approach. Therefore these issues will not be discussed for each of the techniques in this chapter unless there is some special need for it.

The essence of the rationale behind the story telling mode of personality evaluation is the acceptance of the concept that behavior and story telling is an activity of the organism that reflects the person's needs and press. As in the inkblot technique, the testee's verbalizations mirror attitudes and reactions to the various facets of the phenomenological field. The task for the psychologist is to interpret these signs so that the uniqueness of the individual may be satisfactorily revealed.

The thematic tools selected for presentation are those generally used by clinical psychologists. It is not a usual practice to resort to projective devices for large scale screening assignments; rather these tests are employed for intensive evaluation. While all of the thematic procedures are pictorial, the specific stimuli and administration differ widely. An important reason for the diversity of pictures is the age range of the subjects for whom the particular test is meant. For example, Rosenzweig (1944-1948) has two separate sets of his Picture Frustration Study: one for children 4 to 13 years and another for those 14 years of age and over. The pictures and situations depicted in this cartoon-like test are dissimilar and unique for the testees in each group. For convenience of presentation, the thematic type tests will be arbitrarily classified into child and adult devices. The tests for adults will be discussed in this chapter and those for children will be discussed in chapter 11.

THEMATIC APPERCEPTION TEST (TAT)

The Cards

This technique, devised by Murray (1913), is intended for use with subjects 7 years of age and over. With the publication of the Children's Apperception Test (see Chapter

complished by analyzing each event in the story as these events reflect the hero's needs (*n*) and press (*p*). For example if in a story to the first picture the testee states, in part, about the main character, "he does not want to practice the violin but he must or his mother will punish him," the analysis of this part of the overall theme will include "an abasement." In expressing the idea of being forced to do something (practice the violin) under the coercion of punishment, the testee is indicating (as he identifies with the hero of the story) that in his personality make up there is an attitude of self abasement in meeting the demands of an otherwise intolerable situation. Carried one step further, the inference may be made that when a situation so demands the testee is capable of considering (but there is no guarantee of his actually doing so) subordinating his own ideas and activities in order to cope with an unbearable or threat-laden perception of a situation. Murray has a long list of needs for analyzing behavioral and thematic sequences. The same method is used for dealing with stories involving forces external to the hero, i.e., the press. There are more than 30 press detailed by Murray. In addition to the hero identification and the recognition of needs and press there are the story outcomes as well as the overall plot, i.e., the interrelatedness of the discrete story sequences, to be considered in the interpretation of the protocol. This is a complex process and is seldom carried on completely in a busy clinic. There are modifications of this formalistic interpretation procedure. Tomkins (1917) advocates an even more complex level, condition, and vector analysis of the theme. Stein (1918), on the other hand, describes a more practical and practicable 'clinical analysis. Record forms are available to help with the formal and sequential analysis of the TAT stories. Figure 14 is a reproduction of a section of one of these record blanks detailing the elements considered in a formal analysis of a particular story. A separate sheet is used to record and analyze the story for each picture administered to the testee. A summary sheet provides space for recording the major theme for the plates administered, thus enabling

the clinician to obtain a digested summary of the major and minor story regularities for all of the plates

The simplest and most widely employed method of handling the protocol is to make a free interpretation of the individual stories (see Arnold 1949) as the tester reads and rereads them to note regularities and wide divergences in theme. This is judged from commonly produced or popular stories given to each picture (Eron 1948 Fry 1953). Moreover as with the Rorschach Inkblot Test each picture is assigned a central idea and popular theme. The testee's story is therefore considered in the light of this central idea for each picture and its proximate to the popular theme. Stein (1955) indicates for example that the first picture (comprised of a boy a violin and a sheet of paper spread out on a table) is presumed to elicit the testee's need to achieve and the effort he is willing to put forth to attain a goal. A secondary area this picture is alleged to probe concerns attitudes toward parents and parental figures (i.e. authority teacher employer etc.) as these persons are brought into the testee's story in the role of encouragers or coercers. Thus a subject states in response to picture 1. This is a boy looking at the violin and thinking of the day he will give his first concert. He knows he will have to practice hard and for long hours in order to be ready to give a concert in Town Hall. Outcome? Well with a sigh he picks up the violin and goes back to his music stand. The free interpretation of this includes the presence of a goal and the willingness of the testee to make the effort to reach his goal. At a higher level of abstraction the individual indicates a need to achieve and a prestige press. A story which omits reference to a willingness to practice is assumed to signify that the person wants to achieve without working for it. References to a kind mother or to a parent who forces the boy to practice the violin when he would rather be playing baseball may refer respectively to a benign parental relationship or to an hostile or aggressive attitude involved in the parental or authoritative relationship. The analytically oriented psychologist or psychiatrist may see in the testee's story sexual

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Name _____ Story No. _____ (TAT Picture No. _____)

1. Main Theme:

2 Main hero (heroine): age _____ sex _____ vocation _____
interests _____
traits _____
abilities _____
adequacy (✓, ✓✓, ✓✓✓) _____

3 Attitudes to superior (parental) figures, or to society: (✓, ✓✓, ✓✓✓)
autonomous _____ respectful _____ devoted _____
grateful _____ remorseful _____ competitive _____
resistant _____ abusive _____ fearful _____

4 Figures introduced: (✓)
pursuer _____ teacher _____
friend _____ supporter _____
enemy _____

5 Objects introduced (symbols?)

6. Objects omitted:

7. Attribution of blame: (J, JJ, JJJ)
injustice _____
severity _____

indifference _____
deprivation _____

deception _____
unfortunate influence _____

8. Significant conflicts: (J, JJ, JJJ)
Super Ego-Id _____
compliance-autonomy _____

passivity-counteraction _____
achievement-pleasure _____

9. Punishment — for crime: (J, JJ, JJJ)
just _____
immediate _____

too severe _____
delayed _____

lenient _____
none _____

10. Attitude to hero: (J, JJ, JJJ)
detached and objective _____
critical and abusive _____
involved and empathic _____

11. Signs of inhibition at aggression, sex, etc.: (J, JJ, JJJ)
pauses _____
change of trend _____

stammer _____

12. Outcomes: (J, JJ, JJJ)
happy _____
unhappy _____

realistic _____

unrealistic _____

13. Pattern of need gratifications: (J)
need-conflict _____
need-fusion _____
need-subsidiation _____

14. Plot: (J, JJ, JJJ)
structured _____
realistic _____
complete _____

unstructured _____
bizarre _____
incomplete _____

FIGURE 14 Analysis Sheet for Use with the Bellak TAT Blank (Source L Bellak, TAT Blank, New York, The Psychological Corporation, 1947, p 3)

symbolism as mention is made of plucking the violin strings or playing the fiddle (especially fingering the elongated portion of the violin) or of broken strings (Bellak 1950, p 206)

The free interpretive method may be aided by a second record form devised by Fine (1955) in which each story is surveyed for expressed feelings (26 are listed), i.e., affection, anger, depression wishful thinking outcome (favorable, unfavorable, indeterminate) and interpersonal relationships (moving toward moving against and moving away from) Thus various segments of a story may be reduced to subcomponents to give specific details of feelings outcome and interpersonal relationships Perhaps the least objective (and valid) inferences emerge from the free approach as compared with the more formal method

Validity

This problem is no different from the issues raised in the preceding two chapters The criterion, sensitivity to changing forces in the life space classification of psychologically and psychiatrically defined populations, description of the personality trait being studied, and refinement of statistical techniques to show the interaction among the constituents of personality and their behavioral manifestations are among the factors that need clarification for meaningful TAT validity

Rotter (1910) and Harrison (1910) reported a threefold investigation into the validity of TAT soon after the publication of Morgan and Murrays (1935) article on the thematic mode of personality study Rotter implied that this approach was quite valid for teasing out real attitudes personal problems and conflicts of the mentally ill person Harrison studied the protocols of 10 psychiatric patients and evaluated the testees on the basis of an approach characterized as eclectic and emphasizing common sense psychology i.e. a free interpretation stemming from clinical experience with the TAT and with psychiatric patients He

concluded that the stories permitted valid deductions regarding many aspects of the testee's personality structure such as attitudes, conflicts, and interests. Hospital case records were used as the validity criteria. Thus, in its relative infancy the TAT was stamped as a useful tool with acceptable validity. More recently Lindzey and Herman (1955) assessed the degree of susceptibility of responses to the influence of situational changes. This was evaluated in terms of predicting changes in story segments subsequent to severe social frustration (the situational change). The predictions of poststress behavior (or responses) were statistically significant in general. Another study by Little and Shneidman (1955) evaluated the inferences made by 17 experts from the TAT and another test of one subject. These were compared to a consensus prepared by 29 clinical psychologists and psychiatrists from complete clinical records of the patient. The mean validity coefficient of the 17 expert psychologists was .605, sufficiently high to justify the continued clinical use of the TAT.

F. S. Freeman (1955) points out that the validation techniques of the TAT parallel those of the Rorschach Inkblot Test and other projective devices, i.e., comparison of protocol with case history, identified groups and thematic characteristics, relationship between TAT and other tests, and changes in theme before and after experimentally induced states. As a result of a survey of reported studies, the overall impression is gained that the TAT is a satisfactory clinical tool and serves the needs of the clinical psychologist and psychiatrist in making available information regarding the individual's needs, hopes, wishes, and manner of coping with problems.

Reliability

The reliability of any instrument is presumed when its validity is established. As a logical implication from the previous section, the TAT must be considered a reliable instrument. Harrison and Rotter (1915) recognize the applica-

cability of the usual reliability computation methods and therefore propose to assess thematic test reliability by means of the extent of independent examiner agreement of emotional stability reflected in 70 protocols. They report 74 percent agreement in ratings by two judges and infer that the internal consistency is adequate. A modified version of this method is reported by Mayman and Kutner (1947) with favorable results on interjudge agreement on five TAT elements. The test retest and the split half TAT reliabilities are significant (Freeman, 1955, pp. 538-540).

MODIFICATIONS OF THE TAT TECHNIQUE

Because of the real and assumed situational and cultural differences various investigators have devised and used modified versions of the Murray TAT.

Navy-Tat (N-TAT)

The Naval Thematic Apperception Test (Briggs, 1954) consists of ten pictures. Of these, seven have been taken from the original set but redrawn to give them a naval flavor, while three pictures are entirely new: sailor before the captain's mast, sailor, naval officer, and a girl standing together, and a sailor carrying his sea bag. These pictures have been used in conjunction with personality studies of Navy and Coast Guard personnel. This set is administered in the usual manner with the testees writing their own stories. The common themes are related to naval life in accordance with the overt structure of the pictures—naval uniforms, gear, and depicted events that are associated with a sailor's everyday living. These have been used quite extensively in research by the Navy Department and the United States Coast Guard. Characteristic of the use of the N-TAT is the project reported and published by Fron and Auld (1951) on the personality effects of extended submarine confinement as re-

flected in response to these stimulus pictures. Validity and reliability data are not given.

Thompson-TAT (T-TAT)

The T-TAT revision was devised by C. E. Thompson (1949) for use with Negroes. This was developed within the theoretical context that more personality data through lengthier stories would be elicited by stimuli intimately related to the social, cultural, and racial background of the testee. In this revision Negro figures are substituted for white persons in 10 of the original or M-TAT (Murray TAT), cards.

C. E. Thompson (1949) stated that he was prompted to develop the Negro TAT because of the impoverished protocols given by Negro patients to the M-TAT. In a study purporting to evaluate the responsiveness of Negroes to the M-TAT and the T-TAT the subjects produced significantly longer stories on the latter series of plates. Thompson inferred from this that there was greater empathy with the Negroid stimulus material, and therefore the stories were more revealing with regard to the personality structure, attitudes and reactions of the Negroes. Thompson's study and the data were seriously questioned by Korchin *et al* (1950) who, among others, pointed out that a direct comparison between the T-TAT and the M-TAT could not be made in view of the differences in the nature of the stimuli and that the length of a story did not necessarily indicate qualitative differences or more psychologically revealing thought content. He found no significant variations in the length of the stories given by Negroes and white persons to the M-TAT. Schwartz, Reiss, and Cottingham (1951) came to the same general conclusion with regard to the T-TAT and rejected Thompson's basic rationale that Negroes could not empathize with the Murray plates. In sum, there did not seem to be adequate justification for the use of a special set of pictures with American Negroes.

Cultural Modifications

In 1951 Thompson and Bachrach introduced a colored set of pictures in order to make the stimulus more like objects and persons in real life. The colors were painted directly on a set of TAT pictures by an artist with instructions to color the pictures to render the objects and persons depicted in them as natural as possible. The same was done with a set of TTAT plates so that the characters were unmistakably Negroes. Eighty Negroes were tested and retested on the TTAT and the TTATC (colored Thompson TAT plates), 30 whites were similarly exposed to the MTAT and the TATC (the Murray TAT plates). Again the results were presented in terms of productivity, i.e., number of words and story content. The findings were not one-sided. The colored cards and the achromatic pictures were not significantly different in total productivity. Certain individual pictures, however, elicited significantly dissimilar stories both with regard to quantity and content.

Group Modification

Hurley (1955) reports a multiple choice form of this technique called the Iowa Picture Interpretation Test. This variation consists of selected pictures from the original TAT series which are presented to the subjects (both group and individual) with four statements for each picture. The testee ranks each alternative statement for the given picture by placing a 1 before the most preferred and a 4 before the least preferred choice. The four alternative statements are loaded to determine the extent of the individual's achievement imagery (desire to attain a high level of achievement), insecurity (anticipation of or actual failure to achieve a goal), blandness (a lack of desire for personal involvement in situations) and hostility. The advantage of this procedure is obvious in that many testees may be reached in a short period of time. The major weakness is the extreme

limits it places on the subject's responsivity. This is similar to the group techniques with the Rorschach Inkblot Test. Objectivity is increased but the usefulness of the elicited material is restricted.

FOUR-PICTURE TEST (FPT)

The FPT designed by Van Lennep (1949) many years before its publication, elicits stories that mirror personality dynamics. Designed for subjects 12 years of age or over, most of its use has been reported with adults.

The pictures are vague water colors with sufficiently structured human figures to warrant such titles for each as I Being Together with One Other Person, II Being Personally Alone, III Being Socially Alone, and IV Being Together with Many Others in a Group. The testee is directed to tell a story that will include and relate all four pictures. Any card order for telling the story is permissible. There are many variations for administering the test including a follow up on the next day. The protocol may be analyzed formally and sequentially. In addition to the manifest level of interpreting the stories, i.e., correlating the contents of the story to some obvious person, object, or event in the individual's life space, the analytically oriented psychologist may treat the overall theme and its subtheme in a symbolic manner. For example, the bed in picture II may be regarded as the mother symbol so that the story elements are associated with attitudes and reactions to the mother, mother substitute, or perhaps the feminine (motherly) component in the subject's self concept. The tester may request the testee to give another story or to elaborate a detail in any of the pictures. This is equivalent to the limits testing phase of the Rorschach Inkblot Test.

While Van Lennep has provided for the formal analysis of the test variables (differentiation within a picture, use of time and space relationships, conflicts, theme, and thought content), norms have not been provided, despite many years of careful work with the pictures. This is considered to be

a serious lack by American psychologists who are steeped in the nomothetic orientation to test interpretation. The requirement that all four pictures be welded into one coherent story is especially taxing on intellect and imagination. The very flexibility and multiplicity of administration possibilities, an advantage in a way, is a drawback if normative data are desired. There are no reliability and validity data available in the American literature since this test has been so little used. Nor did Van Lennep publish the norms of more than 18,000 test records. He has commented to the effect that this test is not designed to replace other projective devices but is to be employed in conjunction with them.

THE BLACKY PICTURES

G. S. Blum (1950) conceived this test as a means of experimentally validating orthodox Freudian hypotheses regarding psychosexual development and the nature of object relationships the testee is capable of making or has made. The specific psychoanalytic dimensions probed by this test are oral eroticism, oral sadism, anal sadism, oedipal intensity, masturbation guilt, castration anxiety, positive identification, sibling rivalry, guilt feelings, and positive ego ideals. These are the labels given to each of the cartoons, as in Figure 15.

It may be seen from Figure 15 that the cartoons are built around a dog, Blacky, and his or her (depending on the testee's sex and identification of and with Blacky) Mama, Papa, and sibling Tippy. The rationale for using animals in place of humans stems from the belief that a person can talk more freely on a variety of topics about a dog than about oneself or another human being even though what is said may be near the surface of awareness as self-referential material. Blum and Hunt (1952) add that the high degree of structure in the cartoons would not permit the use of human characters because the definiteness of the situation would interfere with the freedom of story productivity. Furthermore, exposure to Disney animal caricatures of most



Cartoon II Oral Sadism



Cartoon IV Oedipal Intensity



Cartoon VI Castration Anxiety
(Males), Penis Envy (Females)

FIGURE 15 Three of the Blacky Test Cartoons (Source G Blum *The Blacky Pictures*, New York: The Psychological Corporation, 1950)

Americans makes possible recognition of human like qualities in the four dog characters. Blum and Hunt (1952, p. 239) offer this explanation: 'It seems almost as if the animal cartoons appeal directly to the residues of childish, prelogical thinking in adults, despite the added fact that they frequently realize consciously that they are telling about themselves'. The test may be administered to persons 5 years of age and over. However, up to the present most of the work has been with college students and adults. The testee is asked to give a spontaneous story to each of the

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plates after the cast of characters has been identified with Blacky as the son for male and as the daughter for female subjects. Each card is presented with an introductory incomplete phrase by the tester, e.g., "All right, now for the first cartoon. Here is Blacky with Mama . . ." or cartoon V is given to the testee with the statement, "Here is Blacky discovering sex . . ." (G. S. Blum, 1950, pp. 1, 5). The spontaneous stories are recorded verbatim in the Record Blank. The free association stage is followed by an inquiry in which the testee is shown a series of printed questions (different sets for male and female subjects) with alternative responses to be selected for each cartoon. For example, for cartoon I (oral eroticism) the questions and responses are (G. S. Blum, 1950, pp. 1-2):

Inquiry for Males

1. Is Blacky
 - (a) happy?
 - (b) unhappy?
 - (c) or doesn't he feel one way or the other?
2. How does Mama feel in this scene?
 - (a) Very contented.
 - (b) Pleased but tired.
 - (c) Rather unhappy.
3. Which would Blacky rather do?
 - (a) Stay until his feeding is over and then go someplace else.
 - (b) Stay as long as possible to be sure he gets enough nourishment.
4. Which one of the following best describes Blacky?
 - (a) He's a little glutton who never stops eating.
 - (b) He's got a hearty appetite which usually gets satisfied.
 - (c) He sometimes doesn't get enough to replace all the energy he burns up.

Inquiry for Females

1. Is Blacky
 - (a) happy?
 - (b) unhappy?
 - (c) or doesn't she feel one way or the other?
2. How does Mama feel in this scene?
 - (a) Very contented.
 - (b) Pleased but tired.
 - (c) Rather unhappy.
3. Which would Blacky rather do?
 - (a) Stay until her feeding is over and then go someplace else.
 - (b) Stay as long as possible to be sure she gets enough nourishment.
4. Which one of the following best describes Blacky?
 - (a) She's a little glutton who never stops eating.
 - (b) She's got a hearty appetite which usually gets satisfied.
 - (c) She sometimes doesn't get enough to replace all the energy she burns up.

Inquiry for Males (continued)

5. Judging by appearances, how much longer will Blacky want to be nursed by Mama before being weaned?
 - (a) He'll want to be on his own fairly soon *
 - (b) He'll want to continue being nursed until he's quite a bit older
 - (c) He feels Mama would like to turn him loose right now.
6. How will Blacky feel about eating when he grows older?
 - (a) He will rather eat than do most anything else.
 - (b) He will enjoy eating but will like lots of other things just as much.*
 - (c) He will never get enough to satisfy his appetite

Inquiry for Females (continued)

- 5 Judging by appearances, how much longer will Blacky want to be nursed by Mama before being weaned?
 - (a) She'll want to be on her own fairly soon *
 - (b) She'll want to continue being nursed until she's quite a bit older
 - (c) She feels Mama would like to turn her loose right now
- 6 How will Blacky feel about eating when she grows older?
 - (a) She will rather eat than do most anything else
 - (b) She will enjoy eating but will like lots of other things just as much *
 - (c) She will never get enough to satisfy her appetite.

* indicates the neutral alternatives

The administration is completed by asking the subject to sort the cartoons into "like" and "dislike" piles and to select from each pile one best liked and one most disliked cartoon with reasons therefor.

The spontaneous stories are interpreted in terms of psychoanalytic dynamics with emphasis on *how* the depicted situation in each cartoon is handled by the testee. The major interest is not in psychological classification of the individual but in the intensity of feelings expressed by the subject and the *manner* in which the psychosexual problem symbolized in each picture (see Figure 15) is handled. Thus, guilt feelings do crop up in the lives of people and are part of everyday living (late to work, too much partying, misdirected anger against Junior), but the psychologist would like to know how intense these feelings are, possible etiology, the form in which these emotionally tinged feelings are manifesting themselves to the individual, and how they are reflected in behavior. These may be deduced from the con-

tents of the spontaneously elicited stories. The inquiry reduces attitudes and feelings that are at the surface and offers support to the tester's interpretive inferences. Especially significant are selected alternatives in the inquiry indicative of strong emotional feelings. The best liked and most disliked cartoons afford further opportunity for probing into areas of personal conflict. From data obtained in these three stages (spontaneous stories, inquiry, and choice of liked and disliked cartoons), the examiner gains insight into the testee's personality make up as it can be described in psychoanalytic notions of oral eroticism, oral sadism, anal sadism etc., and their correlates in character structure as conceptualized in Freudian psychology. This test is most useful to those psychologists and psychiatrists who function within the psychoanalytic framework.

Blum and Hunt (1952) reviewed the studies with this test from the point of view of its validity. The approaches did not differ from those used with the other projective instruments: comparison of test data with predictions and clinicians' judgments; matching performance with clinical history, and matching significant differentiating test variables with psychiatrically and psychologically identified groups. They concluded that their survey offered encouragement with regard to the value of this device as a probe for complex indicators since the results were all positive. It would appear that validation of this instrument must await validation of the theory on which it rests—psychoanalytic psychology.

ROSENZWEIG PICTURE-FRUSTRATION STUDY (P-F)

This test has two forms: one for children 4 to 13 years of age and an adult form for persons 14 years and over (Rosenzweig 1944-1948). Both versions consist of 24 line-drawn cartoons, each with two central characters. One of the figures is saying something which structures a stress situation (frustration) for the other. The testee is required to write in the empty balloon the immediate reply or verbalized reaction to the statement by the second person with whom the

subject usually identifies Figure 16 shows two situations from the child and adult forms of the P F test

The purpose of this device is to ascertain the subject's reaction to stress. This is determined from the manner in which the testee responds to typical frustrating situations i.e. the replies or comments written into the empty cartoon balloon in each picture. This differs somewhat from the thematic techniques discussed in the preceding sections of this chapter but it is still rooted in the logic that an individual's behavior in a situation how he meets problems and copes with interpersonal relations reflects the fundamental personality make up. These segments of verbal behavior furnish data for assessing problem areas for gaining insight into modes of adjusting to situations and for predictions.

The replies are scored in accordance with a scheme devised by Rosenzweig to show the direction of aggression and type of reaction in coping with the frustrating situation. The directions for expressing aggression are

1 Inwardly or intropunitively in which the testee accepts the frustrating situation as something which he must handle by correcting the situation— I guess it's my fault excuse it please it won't happen again

2 Outwardly against persons and objects in the environment or extrapunitively so that someone or something other than the testee is at fault and therefore must resolve the conflict— It's his car he should be more careful driving

3 Evasively or impunitively an attitude in which the subject tries to belittle the frustration in order not to have to cope with it— It doesn't matter I'll just wait for the next train

Closely associated with the direction of aggression is the type of reaction in which the subject may emphasize in his reply

1 The barrier to problem solving or obstacle dominance
2 The tendency to stress one's own involvement in the situation ego-defense

3 The need to find a solution to the problem either through one's own efforts and/or the help of others need persistence

These are the essential scoring factors simply defined but they become complex as the replies are analyzed since the

interprets the stimulus situation in terms of how he *should* respond or how he *would* react if he found himself in a similar real life predicament.¹ The Lindzey and Goldwyn (1954) studies involve five approaches to validating the P F Study: group differentiation, relation between test aggression indices and independent measures of aggression, correlation of P F test data with another projective technique, prediction of behavior in a situation from test replies, and, finally, the relationship between P F scores and sociometric indices, i.e., acceptance and rejection of the individual by his peers. If extrapunitive direction of aggression and low group conformity are traits of delinquent children, this test does not support these claims. The P F fails to differentiate between delinquent and nondelinquent children. The test data show a positive correspondence to overt measures of hostile behavior. There is only a chance relationship between extrapunitive P F Study replies and the frequency of aggressive word associations. Contrary to the two preceding positive findings, the congruence between extrapunitive intrapunitive responses and reactions in actual stress situations is below expectation. Social choice, i.e., being selected or rejected by social group peers, is related only slightly to extrapunitive and intrapunitive replies. The validity inferences from this study must be considered inconclusive for the present. Lindzey and Goldwyn attribute these findings to the fact that Rosenzweig's conceptualizations in this test are far from homogeneous and consistently measurable. However, the P F Study can be used by testers to elicit surface ideas adding to insights into how the testee reacts to situations and perhaps, an awareness of the particular kind (s) of situation (s) perceived as most frustrating.

SZONDI TEST

Szondi's (1937) *tribdiagnostik* technique may be used with persons 1 year of age and over. Most of the reported

¹ This also involves the oft repeated question of the necessity of redefining validity as a concept in the projective method of personality evaluation.

studies however have involved adult groups. The test originated in Szondi's belief that recessive genes influence psychological reactions. Deri (1949 p. 1) writes

According to [Szondi's] theory the mental disorders represented in the test [pictures] are of genetic origin and the subject's emotional reactions to these photographs were believed to depend upon some sort of similarity between the gene structure of the patient represented by the photograph and that of the subject reacting to the photograph. The subject was asked to choose those pictures he liked most or those he disliked most. The validating data in regard to the origin of the choices were expected from the subject's family tree.

The genogenetic aspect of the basic Szondi theory has been challenged and found wanting time and again. Szondi's evidence points to dissimilar test profiles in 4,000 cases but almost identical profiles from identical twins. Rabin (1952) failed to find supporting data for the genetic origin of picture selection. His identical twins showed less than 50 per cent agreement in their choices of liked and disliked Szondi pictures. Rabin concluded that familial environment and cultural influences were the major factors in the selections made by the twins.

Deri proposes that the basic rationale for this test is not much different from that for the other projective tests—to probe into the subject's private world and personality structure in terms of need systems or drives to behavior. Since the photographs of the Szondi Test are alleged to represent eight need systems characteristic of the human personality, Deri postulates that the testee's choices of liked and disliked pictures reflect the intensity of the tensions engendered by the individual's drives and symbolized by the photos. Thus a dominant choice of one category (see p. 220) of pictures represents a state of strong tension or intense need while a limited (one or none) selection of photographs in a particular category discloses that the subject is living out the given need through appropriate activity and therefore it is not a source of tension. This in its simplest terms is the essence for Szondi testing. Deri considers this a global

test, i.e., it does not evaluate static personality factors but attempts to assess quantitatively the " . . . distribution of need tensions in the personality plus the way the person handles these need tensions" (Deri, 1949, p. 449). The interpretation is very complex and is probably one of the reasons its clinical use is not widespread.

The administration is time consuming if the tester adheres to the standard directions. The material consists of forty-eight photos, 2 by 3 inches, divided into six sets of eight each. The photos show the head and face of a mental patient in one of eight psychiatrically diagnosed categories or factors (as Szondi terms it). Thus each set contains the picture of a person diagnosed as homosexual, *h*, sadistic, *s*, epileptic, *e*, hysteric, *hy*, catatonic, *k*, paranoid, *p*, depressive, *d*, and manic, *m*. The testee is asked to select from each set of eight pictures spread out in front of him the two most liked and the two most disliked. This is repeated six times (for the six sets) so that the subject has selected twelve liked and twelve disliked photos. The twelve most liked are then laid out in front of the subject with the request to select from these the four most liked. This is repeated with the twelve most disliked pictures. The final four most liked and disliked are recorded on a profile form. The administration is repeated at one-day intervals for a minimum of five and a maximum of nine additional sessions. From six to ten profiles and the summary are filled in by the examiner. It is from these quantitative relationships among the factors—the changes in choices from one session to the next and the overall directionality of the changes—that the qualitative analyses and interpretation are made by the tester.

In order to test the differentiating role of the homosexual, *h*, and the epileptic, *e*, factors, David Orne, and Rabinowitz administered the Szondi Test six times to 100 overt homosexuals and to 100 idiopathic epileptics. The quantitative diagnostic signs for epilepsy and homosexuality proposed by Szondi and Deri failed to differentiate consistently between these two populations. The Szondi diagnostic sign method overlooked the skill of the clinical psychologist in

evaluating the patients. The test data were then transcribed into qualitative test profiles and submitted to three Szondi Test experts who were able to discriminate significantly between the homosexuals and the epileptics in the study population. The implication strongly advanced the clinicians' contentions that professional evaluative skills were rooted in the understanding of the *interdependence* among test factors rather than in discrete elements. Scepticism was the word used by Fosberg (1951) to characterize the results of his experience with this test. Other critics of this tool arrived at somewhat the same conclusion. They questioned its validity and reliability although the latter test attribute was less controversial. In fairness to the test it must be stated that the weaknesses of the validity studies stemmed in great measure, from the difficulty in defining the validation process applicable to the projective method. The usual warning note for the continued cautious use and interpretation of Szondi Test data was a noticeable feature of the researches reported in the literature.

MAKE-A-PICTURE STORY TEST (MAPS)

Shneidman's (1952) interesting technique consists of 67 cutout cardboard figures—human and animal, in scaled proportions, 22 backgrounds representing a variety of situational backdrops and a slotted stage for holding the background scene picture and the figures. The figures include 19 male adults (M), 11 female adults (F), 12 children (C), 10 figures of minority groups such as Negroes, Jews, Orientals, and Mexicans (N), 2 animals (A), 2 human figures whose sex is ambiguous or indeterminate (I), 6 figures representing legendary and fictitious characters (L), and 3 silhouettes and figures with blank faces (S). Each figure is identified by a code letter and number. The policeman, for example, is M 5, the boy with arms outstretched and a bandage on his left leg is C 10. The tester keeps a separate record of the exact placement of the figures with each background used. The backdrops range in structure from quite

specific and definite scenes to unstructured ones in approximately the following order: schoolroom, closet, medical scene, nursery, living room, bathroom, attic, cellar, shanty, bedroom, bridge, street, cemetery, forest, cave, camp, landscape vista, doorway, stage, raft, dream, and blank card. Figure 17 illustrates a MAPS group as a subject might lay it out (a) and as the tester would record it on his form (b). This technique derives its unstructuredness mainly from the complete freedom with which the subject may put together a situation, i.e., the figures, in keeping with a background scene. The major limiting factor is the backdrop. Once this has been selected by and/or for the testee, the range and spontaneity of story associations inhere in the extent to which the subject is able to utilize any of the 67 figures to structure his ideational production. The test instructions require the testee to tell a story about the situation he has created with the scenes and the figures. The testee is urged to tell what each character is thinking, doing, and feeling, what led up to the scene, and, finally, the outcome. The tester is free to question the subject with regard to omissions or lack of clarity in the story. The number and the particular scenes to be used with a testee are decisions that the examiner makes as the test progresses.

This technique goes beyond the usual thematic procedures in that it resembles a psychodrama situation in which the subject plays all roles. This affords an excellent opportunity for the testee to structure his own circumstances, presumably to suit his need to 'talk out' his problems. Accordingly, the tester is given some insight into areas of emotional, social, and personal difficulties, into the subject's attitudes toward his problems, and into how the testee actually or wishfully copes with them. Shneidman has devised a sign system for interpreting the test results. In a study of 50 normal and 50 schizophrenic subjects, Shneidman (1918) differentiates significantly between these groups with reference to the quantitative signs and the qualitative (or content) aspects of the MAPS productions. A comprehensive survey of MAPS research by Goldenberg (1951) shows favorable



A

STREET
1st

Total:



B

FIGURE 17 A MAPS Group (A) and Tester's Record (B) (Source E S Shneidman *The Make-a Picture Story Test* New York: The Psychological Corporation 1919)

validity The research literature is not too extensive but the consensus is that the MAPS is a promising tool for personality evaluation

VOCATIONAL APPERCEPTION TEST (VAT)

This test represents a unique application of the thematic concept—exploring vocational interests and attitudes by means of exposure to pictures of a variety of work situations and obtaining verbalized reactions thereto. The pictures are definitely structured to elicit reactions to vocational ideation. The cards are sufficiently structured in content so as to influence the nature of the testee's stories in the direction of occupational associations. The cards are line drawings showing the main character engaged in a variety of activities. The women's form depicts the central figure as a nurse, artist, teacher, saleswoman, dietitian, mother of children, maid or housewife, laboratory technician or medical college student, public health nurse or social worker, and office clerk, transcription typist, or secretary. The men's form shows a medical doctor, attorney, teacher, salesman, engineer or draftsman, interviewer of some kind (personnel, social worker, etc.), executive, and a laboratory technician or scientist. This test is standardized on a college population of 10 men and 35 women. The validation data consists of a significant correlation between Strong Vocational Interest Blank scores and VAT general preference ratings. The *Manual* (Ammons *et al.*, 1949) offers further validity evidence in terms of a relationship between VAT themes and available personal data about these standardization group testees. The high consistency of scoring and rescoreing the VAT protocol by the same examiner and the scoring agreement obtained by experienced and inexperienced testers are offered as evidence of the reliability of this test.

The test is easily administered. The subject is told that he will be shown a series of pictures to which he should tell a story containing these elements: a description of the situation (including the person in it, presumably the one with

whom the subject is identifying), how the situation has come about, the pictured individual's reactions to these conditions, and what the future holds for the person. Stories are recorded verbatim. Besides interpreting the manifest content of the thema and making inferences from them, there are formal aspects of the stories which yield to quantitative and qualitative handling. The major areas of thematic analysis are

1 General preference for an occupation—like, like indifferent, dislike, ambivalent

2 Reason for entering an occupation—in this category there are twenty one possibilities for characterizing the hero's (the figure with whom the testee obviously identifies) reason for engaging in the depicted or projected vocation

3 Areas of concern to the individual—in this section eight different sources of difficulty are surveyed, e.g., personal conflict, home and parental conflict, educational conflict, no conflict mentioned, etc

4 Mechanisms used in solution of conflict—ten modes of coping with conflict are used in checking the testee's stories. These adaptive mechanisms include attack, acceptance, escape, retreat, unreal solution, no solution, etc

5 Outcomes—seven actions are included in this description of the stories: success, continues in the field (i.e., remains in the occupation), leaves the field (i.e., enters another vocation), not clearly stated outcome, confusion, disaster, and continuous dissatisfaction. Additional outcomes are available to women: marry, but continue in the field, marry an individual who has an allied interest in the field, and marry and leave the field (from Ammons *et al.*, 1949, pp. 3-7)

This information, plus the manifest content, furnishes the cues for the counselor. Very little work has been done with this test, but it does have promise for the clinically oriented vocational psychologist.

SUMMARY

The tests in this chapter are the thematic tools utilized mainly with adults, although some of them have been origi-

nally designed for use with children as well. The story-telling mode of personality assessment is anchored to the notion that the subject's verbalizations are oral behavioral manifestations of the person's ideational reactions to situations as idiosyncratically and idiodynamically perceived. These clinical tools developed out of the need to obtain insights into the reasons people behave the way they do—how and why they have maneuvered themselves into conflictual situations and their attempts to find ways of handling these problems. A logical question revolves around the issue of *would* or *should*, i.e., do the testee's stories reveal how he feels he *should* react to a situation in order to conform to the demands of society and thus minimize the anxiety threat, or do they represent the actual mode of handling the problem were he faced with it in real life rather than in the security of the testing room, the *would* behavioral response. There are some test circumstances to which the *should* reply is significant, while others involve the *would* reaction. The difference between these two must come from extratest information regarding the testee.

These thematic devices differ with respect to details of administration, stimulus pictures, and response techniques. Yet they all share the common aspect of tapping thought content that is unique to the individual. The material that emerges is handled on different levels of interpretation by psychologists in keeping with their respective individual orientations.

11. *THEMATIC TECHNIQUES FOR CHILDREN*

ONE OF THE MAJOR QUESTIONS WITH WHICH PSYCHOLOGISTS have had to concern themselves is the applicability of their tests to children as well as to adults. The trend in mental health today is toward prevention or early treatment in the increasing number of child guidance clinics established under federal and state grants. This has placed a burden on clinical psychologists—the task of concentrating on ferreting out the dynamics of child behavior with the tools available. Most of these have been conceived in the framework of adult personality evaluation and extended downward to include the assessment of child dynamics. The core of the problem is not whether these tools are feasible with children but how the responses are to be interpreted in terms of child dynamics as the child perceives and not as symbolic of miniature adult dynamics (Allen, 1951). To enter the world of the child it is necessary to see with the child's eyes. Since the eyes belong to the child and the idea is the child's, the best the examiner can do, some psychologists believe, is to offer the child visual stimuli from the world he knows best. Bellak and Bellak (1949, 1950, 1952) strongly endorse this position as do Hartwell and his colleagues (1950). This school of thought includes others who are responsible for devising children's thematic apperception tests, the subject matter of this chapter.

Children are capable of projecting their associations onto verbal and nonverbal media. The tests presented in the previous chapter were originally designed for adults and chil-

dren, but clinical usage seems to have been predominantly with the older subjects. A marked weakness of the use of identical stimulus material with children and adults is the tendency to interpret thematic productions by younger subjects on the same level of symbolic meaning as for the older testees. Since the interpretation of children's stories does call for a knowledge of how the child perceives in his life space and how interpersonal relations are developed with growth in psychosocial role awareness, psychologists have devised thematic stimuli which they believe to be constituted of objects, phenomena, and persons peculiar to the child's world. These specially designed stimuli, they contend, facilitate the expression of needs and press by the child since the stimuli are representative of his world and give him an opportunity to express associations in his own terms.

SYMONDS PICTURE-STORY TEST

The selection of the final pictures in this thematic series was the result of preliminary study with adolescents, using 12 pictures. The 20 most fruitful plates were retained as Set A and Set B with 10 pictures in each. These were considered applicable to boys and girls in grades 7 to 12. Symonds reasoned that the teen-aged subject would identify and empathize more readily with the peer-aged humans in the pictures he devised.

Figure 18 shows plate A1 in the Symonds Picture Story Test. The central character depicted in this plate is seen by most adolescents as a young man. From this starting point the themes differ with the needs and press impinging upon each subject.

The directions for giving the test suggest that the 10 plates in Set A be administered first, followed by the 10 pictures in Set B one day later. If there is time for only one session, Set B should be the preferred series since it contains the most potent pictures. The verbal instructions are the usual ones for thematic tests with encouragement and inquiry

permissible to ensure that omissions with regard to the characters (their thinking, feeling, actions), the preceding situational events, and the outcomes are not overlooked. Verbatim recording is best so that each story can then read back



FIGURE 18. Picture A1 of the Symonds Picture-Story Test (Source. P. M. Symonds, *Symonds Picture-Story Test*, New York, Bureau of Publications, Teachers College, Columbia University, 1948.)

to the subject as he looks at the picture and is required to account for its origin. In a permissive atmosphere enlightening supplementary material may be elicited. Symonds offers suggestions for analyzing the theme in terms of (1) the hero; (2) the psychological forces at work; (3) interpersonal re-

relationships (4) interests and attitudes and (5) outcomes. This approach departs from Murray's (1938) need press analysis: the emphasis is on the dynamics of behavior i.e., those factors which are directly manifested or indirectly inferred from the attributes of the person and events verbalized in the picture stories. The significant psychological forces for which the themes are analyzed include (Symonds 1948 pp. 10-12) hostility and aggression, love and erotism, ambivalence, anxiety, defense against anxiety, moral standards and conflicts, ambition, striving toward success, conflicts, guilt, guilt reduction, depression, discouragement, despair, happiness, and sublimation.

In addition to these subjective considerations there are the formal factors that enter into the analysis of the picture stories: viz. the time consumed in story telling, the subject's test-taking attitude, the extent to which the story contains extrapicture details i.e. the fidelity of the story, the emotional tone, and several other elements. All of these data are used in the interpretation of the stories. Symonds (1948) contends that this test offers personal material at the level of covert trends, wishes, desires, impulses, anxieties, which are not openly expressed in behavior and personality, or which may find expression through reaction formations or neurotic symptoms. (p. 18) The published research with this technique is limited to Symonds' work.

Holt (1949) reviewed this test and the rationale behind it. He did not see the need for another set of pictures besides the Murray TAT to simulate the fantasy of adolescents. Furthermore, all of the Symonds pictures were very much alike in the style of the characters, in the dullness of the backgrounds, and in the realistic nature of the suggested situations. This, Holt felt, did not adduce to a variety of story associations.

Despite Holt's pessimistic outlook with regard to this test, Symonds has attempted to fashion a practical tool for evaluating the continuous behavioral flux in dynamic motivational concepts. The purpose is to understand why the adolescent behaves the way he does. At no time has Symonds

claimed for this technique the role of differentiating normal from pathological activity. This is a client centered tool whose full potential has not been tapped.

THE ADULT CHILD INTERACTION TEST (ACI TEST)

This is one of the latest devices conceived in the thematic framework to elicit personally relevant stories. The ACI Test was developed by Alexander (1955 p 1)

to give information primarily about perceptive experience of adults in reference to children and children's perception of adults. It has been used within the age range of six years to sixty five years. The aim of the test includes elucidation of self perception of adult or child in the interaction process. Although adult child interaction material is the primary aim of the test there are broader possibilities. The test may be used for the study of the relationship of personality characteristics to interaction with authority. Because of its primary aim at studying the perceptions of the interaction process between children and adults those concerned with the educational process find possibilities for its use.

The test itself is too new for an evaluative survey of its reliability and validity. In the author's opinion the future use of this technique will be predominantly in guidance clinics by psychologists concerned with the problems of children and with parent child difficulties.

The test consists of eight pictures in which a fairly well structured child figure is quite prominent. In five pictures there are adult figures present while three show children only. Card 8 Figure 19 is the most symbolically structured of the series since it shows a seated child in the center of the card surrounded by pointing fingers. Alexander states that this card is most conducive to disclosing the child's attitude toward the *don'ts of living*. The other pictures have been assigned the following dynamics probing roles as revealed in the popular *thema* method of handling guilt feelings in the parent-child interaction: attitudes and reactions to authority to nonachievement and to psychosexual forces in

lationships, (4) interests and attitudes, and (5) outcomes. This approach departs from Murray's (1938) need press analysis; the emphasis is on the dynamics of behavior, i.e., those factors which are directly manifested or indirectly inferred from the attributes of the person and events verbalized in the picture stories. The significant psychological forces for which the themes are analyzed include (Symonds, 1948, pp. 10-12): ". . . hostility and aggression, love and erotism, ambivalence, anxiety, defense against anxiety, moral standards and conflicts, ambition, striving toward success, conflicts, guilt, guilt reduction, depression, discouragement, despair, happiness, and sublimation."

In addition to these subjective considerations there are the formal factors that enter into the analysis of the picture stories, viz., the time consumed in story telling, the subject's test taking attitude, the extent to which the story contains extrapicture details, i.e., the fidelity of the story, the emotional tone, and several other elements. All of these data are used in the interpretation of the stories. Symonds (1948) contends that this test offers personal material at the level of ". . . covert trends, wishes, desires, impulses, anxieties which are not openly expressed in behavior and personality, or which may find expression through reaction formations or neurotic symptoms . . ." (p. 18). The published research with this technique is limited to Symonds' work.

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The test itself is too new for an evaluative survey of its reliability and validity. In the author's opinion, the future use of this technique will be predominantly in guidance clinics by psychologists concerned with the problems of children and with parent child difficulties.

The test consists of eight pictures in which a fairly well-structured child figure is quite prominent. In five pictures there are adult figures present, while three show children only. Card 8, Figure 19, is the most symbolically structured of the series since it shows a seated child in the center of the card, surrounded by pointing fingers. Alexander states that this card is most conducive to disclosing the child's attitude toward the "don'ts" of living. The other pictures have been assigned the following dynamics probing roles as revealed in the popular theme: method of handling guilt feelings in the parent child interaction, attitudes and reactions to authority, to nonachievement, and to psychosexual forces in

the life space, the child's level of aspiration and willingness to work toward a goal, and how the youngster handles grief as a psychological force

The instructions are the usual request to make up a story



FIGURE 19 ACI Test Card 8 (Source: T. Alexander, *The Adult-Child Interaction Test Campaign*, III, Child Development Publications, 1955)

for each picture with the details about the characters, their thoughts, feelings and action—the events leading to the depicted scene and the outcomes. Each picture story is scrutinized in keeping with the ACI Analysis Chart, Figure 20, in which the significant aspects of the story are analyzed for appropriate elements which are then synthesized into a re-

port regarding the child. These elements include the intellectual and emotional aspects that are part of the child's life. Alexander cites observational data as validation of predictions made from the protocol. However, this is not sufficient to make a strong case for the validity and reliability of the ACI Test. Much more work needs to be done with this technique before its usefulness can be more adequately assessed.

Card No.	Stimuli		Problem Approaches	Emotional Expressions or Actions		External Forces	
	In Card and Used by S	Added by S		Positive	Negative	Beneficent	Hostile
1							
2							
3							
4							
5							
6							
7							
8							
All Stories							

FIGURE 20. ACI Analysis Chart. (Source: T. Alexander, *The Adult-Child Interaction Test*, Champaign, Ill., Child Development Publications, 1955, p. 19.)

THE MICHIGAN PICTURE TEST

This new test was developed by the staff of the Michigan State Department of Mental Health in conjunction with the University of Michigan (Hartwell *et al*, 1951) for use with children 8 to 14 years of age. The authors of this test recognized that TAT-like tests were too complex and time-consuming if the suggested scoring systems for thematic analysis were fully employed. This technique, they felt, could be handled effectively in a shorter time without any loss of relevant personality data that could contribute to a satisfactory interpretation.

The test is the result of an extensive study of the means of devising a valid measure of maladjustment as well as to provide normative data on emotional reactions of children as given to picture stories (Walton *et al*, 1951 p. 438). As a diagnostic instrument its applications are most feasible in child guidance centers and in the grade and junior high schools where 8 to 14 year-olds are the major sources of subjects with personal problems and difficulties of adjustment.

There are sixteen pictures in this set; four are used with boys, four with girls, and eight are shared by both. Figure 21 is card 2 of this series and may be used with boys and girls. Thus, each subject can be exposed to twelve pictures. The plates contain figures recognizable as young humans in situations sufficiently structured to elicit themes which reveal attitudes, reactions, and modes of dealing with school difficulties, social problems, personal inadequacy, home or parental conflicts, especially those involving adolescent and teenage problems of relating to parents and peers, and sexual drives. Another interesting feature of this test is that the busy clinician can use a core set of four pictures which differentiates significantly between well and poorly adjusted children. The other pictures in the set afford supplementary data to give more adequate information in regard to the child's personality dynamics and structure.

After the usual directions for the thematic type test, the



FIGURE 21. Card Number 2 of the Michigan Picture Test. (Source: S. Hartwell, R. E. Walton, G. Andrew, and M. Hutt, *The Michigan Picture Test*, Chicago, Science Research Associates, 1955)

stories are analyzed for the crucial variables which differentiate along the adjustment continuum. Three of the more important assessments which give insight into the degree of a child's maladjustment follow:

1. Tension index—this is a score derived from the verbalized needs contained in the stories of the testees.
2. Direction of forces—this refers to the directionality of the forces with regard to the central character of the picture story. Is he active or the source of the action, or is the main character the recipient of action being directed at him?
3. Verb tense—the concern in this variable is to ascertain the extent to which the child employs past, present, and future verb tenses as temporal references in the stories.

The authors provide normative data in their *Manual* (Hartwell *et al.*, 1955) so that these three important variables have meaningful referents. Holt (1951) characterizes this test as an excellent tool, as being well grounded in careful research, and as a valuable supplement for the Children's Apperception Test. The other factors for which the tester surveys the thema are interpersonal relations, personal pronouns, psychosexual level, popular objects, and, finally, the combined maladjustment index. Figure 22 is a reproduction of the first page of the analysis sheet used in connection with the Michigan Picture Test.

The preceding thematic devices with the exception of the Blacky test utilize human forms as part of the visual stimuli. The major differences are in the structure of the situations purporting to stimulate associations along specific directions, e.g., manner of coping with and attitudes and reactions toward guilt feelings, authority, interpersonal relationships, etc., and in the nature of the human characters, e.g., children, adults, teenagers, Negroes, and colored figures. Each of these techniques has been designed for a specific population, e.g., children, adults, adolescents, minority group members, etc. These are based on the assumption that the uniqueness of the situations and of the human figures enhances the chances of eliciting topical material that reveals personality dynamics. These claims have not been conclusively established. Subsequent usage of these specialized tests has led to counterclaims that the original Murray TAT plates do and do not elicit equally lengthy and/or qualitatively meaningful stories as do the particular variations of the TAT.

One facet of the issue with regard to the nature of the stimulus figure and its role in thematic productivity is related to the use of animals in place of humans in the stimulus pictures. This is touched upon briefly in the previous chapter in connection with the Blacky test (G. S. Blum, 1950). The major reason for the use of animal characters in place of human figures is the contention that the production of self-referential and ordinarily ego-alien material is made easier for the subject (Kris (1915), Bills (1950), and Bills,

ANALYSIS SHEET for the MICHIGAN PICTURE TEST

NAME _____ DATE OF BIRTH _____ M F _____
 DATE TEST _____ GRADE NUMBER USED _____ ANALYST BY _____

TENSION INDEX

Picture Number	Low	Number	Very Positive	Number	Stressful	Number	Personal Adequacy	Number	Total
1									
6									
9									
12									
Total									
Percent									

Above or total score _____

Emphasis on _____

VERB TENSE

Picture Number	Number of References						Total	Percentage of References		
	Part	Number	Present	Number	Future	Number		Part	Present	Future
1										
6										
9										
12										
Total	Part		Present		Future		Total four scores	% in	% in	% in

As or above or total score _____

Past score _____

Present score _____

FIGURE 22 The First Page of the Analysis Sheet for the Michigan Picture Test (Source S Hartwell, R E Walton G Andrew and M Hutt, *The Michigan Picture Test*, Chicago Science Research Associates, 1955)

Leiman, and Thomas (1950) favor the use of animals to stimulate children in terms of their world of fact and fantasy, a world of people and animals Experience with children's TAT's (Murray, 1943) by some clinical psychologists discloses three deficiencies in the stories produced by this

set of pictures (Bills 1950 p 291) The most obvious of the inadequacies which have been noted include (1) the length of the story told (2) the amount of description evoked and (3) blocking on individual cards and the test as a whole

Bills collected a set of 10 pictures from a child's book showing rabbits in place of humans and administered it along with the TAT to 18 children 5 to 10 years of age The word count differences between the Bills pictures and the TAT were significant at each age level The former cards also elicited stories which appeared to have more coherence than the TAT stories (p 292) The relevancy of the TAT and rabbit stories to personality dynamics was not ascertained however Finally there is an almost insignificant card rejection with the Bills pictures as compared to the relatively frequent TAT card rejection reflective of emotional blocking on the latter In a subsequent study by Bills Leiman and Thomas (1950) both the animal pictures and the TAT elicited themes containing manifest needs of the child equally well

The other side of the controversy contends that there are no reliable differences in the stories of young children associating to animal and to human figures in the same situational background Biersdorf and Marcuse (1953) utilized six Children's Apperception Test (Bellak and Bellak 1949) pictures (which contain animal characters only) and six identical pictures with humans in place of the animals Figure 23 illustrates one set of animal human pictures

The subjects were 30 first grade children In a well-controlled experimental procedure they were exposed to the human and animal pictures Table 13 summarizes the results of this study (see p 210)

In addition to the nonsignificant differences of Table 13 a seventh discriminating criterion—rejection of pictures—yielded the same finding i.e. there were no rejections for the group with the animal and human plates A similar study by Mamord and Marcuse (1954) with psychiatrically diagnosed emotionally disturbed children disclosed the absence

of significant differences in the five criteria of responsivity. A sixth and comparatively valuable result was the judgment of five psychologists who assessed the records with regard to their clinical usefulness. These raters found that the pictured situations with humans were significantly better than the animal figures in producing meaningful material regarding personal dynamics and personality structure of the disturbed children.



FIGURE 23 A Pair of Animal and Human Pictures Used in the Biersdorf Marcuse Study (Source (Left) from L. Bellak and S. S. Bellak, *Children's Apperception Test*, New York, C. P. S. Company, 1949 (Right) from K. R. Biersdorf and F. L. Marcuse, *Responses of children to human and animal pictures*, *J. Proj. Tech.*, 1953, 17: 455-459, Figure 1, p. 456)

There seems to be a contradiction in the findings of Bills (1950) and Bills *et al.* (1950), on the one hand, and the two preceding studies. However, these differences are not quite as conclusive as they appear to be on the basis of the statistical comparisons. As a matter of fact, this controversy cannot be decided one way or the other because there is more than the picture and the child involved. It is the *interaction* between the stimulus material (human and animal figures in a situation) and the child (with his own perceptions of the manifest and symbolic valences) that will eventually determine the reactions of the child. It is true the young child does

TABLE 13 Comparison of the Responsivity of Children to Animal and Human Figures in Paired Pictures Using the Same Situations and Scenic Background

Variable	Animal		Human		t ^a
	Median	Standard Deviation	Median	Standard Deviation	
(1) Length of time before response in seconds	4 0	1 9	3 0	1 9	37
(2) Length of response time in seconds	30 0	9 8	32 0	8 7	15
(3) Number of words used	43 5	11 7	40 5	9 3	20
(4) Number of ideas present	6 0	1 5	6 0	1 3	00
(5) Number of characters mentioned (in the picture)	3 0	25	3 0	25	00
(6) Number of characters mentioned (not in the picture)	0		0		

^a P > .05 in every caseSource: Adapted from K. R. Bersdorf and F. L. Marcuse, Responses of children to human and animal pictures, *J. Proj. Tech.* 1953, 17, 455-459, Table I, p. 457.

have his fantasy world that his books are given to animal stories that seeing animal cartoons does occupy an important measure of his leisure time via comic books, movies, and children's television programs. However, there is the child's world of fact in which he does live with humans, play with them, go to school with them, and otherwise participate in the give and take of the world of people. The Bills studies use animal activity pictures, but they are different from the situations depicted in the TAT (human figures) plates. The latter two studies cited above employ pictorial situations similar in all respects with the exception of the animal and human characters. The divergence in findings, the former that animal pictures enhance productivity and the latter that there are no significant differences in story productivity, cannot be contrasted with each other for arriving at contradictory conclusions. The latter studies are *not* to be considered as a cross-validation of the former investigations. The findings indicate that (1) with all variables identical, human figures elicit more clinically meaningful themes but not necessarily

lengthier ones (Biersdorf and Marcuse 1953) (2) this ad-
duces to differentiations between disturbed and adjusted
children (Maimord and Marcuse 1954) (3) when neither
the situations nor the figures are alike the animal characters
elicit stories with greater word count and minimal rejections
(Bills 1950) (4) however with regard to the qualitative
differences in terms of the expression of manifest needs the
child produces equally for both animal and human figures
(Bills Leiman and Thomas 1950) It is with this back-
ground of thematic techniques that the Children's Apper-
ception Test a widely used clinical tool with children is
introduced

CHILDREN'S APPERCEPTION TEST (CAT)

The 10 pictures in this series are the product of Bellak and
Bellak (1949) for use with children 3 to 10 years of age
Figure 24 is a greatly reduced reproduction of the 10 plates
Bellak and Bellak (1950 p 173) comment that the pictures
elicit themes with regard to the following personally relevant
topics projection of children's problems around eat-
ing relation to parental figures as individuals and as couples
with the primal scene as the focal point revelation of fears
of loneliness problems of sibling rivalry toilet training
mastery aggression masturbation etc The reasons for the
use of animal characters in place of humans are among those
elaborated in the preceding section The emphasis however
is on the psychoanalytic notion that children (at their level
of intellectual and emotional development) find it easier
to identify with characters in their fantasy world Each one
of the pictures is assigned a central theme and an area or
areas of dynamic force(s) usually revealed in the picture
story For example picture 1 revolves around feeding prob-
lems and perhaps sibling rivalry

The test is administered in a permissive atmosphere with
instructions as flexible as necessary The test nature of the
situation is minimized and if possible the game aspect is
stressed As the story unfolds the tester may interpose ques-

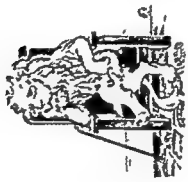
5



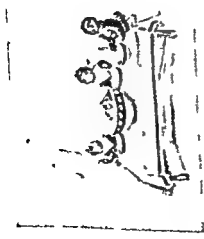
2



3

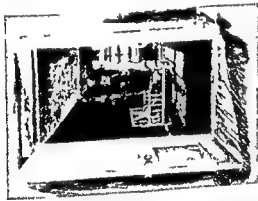


4





6



9



8



7

10

FIGURE 24 CAT Pictures (Source L. Bellak and S. S. Bellak, An introductory note on the Children's Apperception Test (CAT), *J Proj Tech*, 1950, 14 173-180 pp 174-175)

ANALYSIS SHEET¹

Name _____ Age _____ Sex _____ Story No. _____

1. Main Theme: _____

2. Main Hero (Heroine): age _____ sex _____ vocation _____
 interests _____
 traits _____
 abilities _____
 adequacy _____

3. Attitudes to parental figures: (✓)

autonomous _____ compliant _____ respectful _____ devoted _____
 grateful _____ dependent _____ remorseful _____ competitive _____
 resistant _____ aggressive _____ abusive _____ fearful _____
 oral _____ demanding _____ passive _____ other _____

4. Family Roles:

Hero identifies with:

father is seen as _____ father _____
 mother is seen as _____ mother _____
 sibling is seen as _____ sibling _____
 other figure _____ is seen as _____

5. Figures or objects or external circumstances introduced: (✓)

punisher _____ pursuer _____ benefactor _____ siblings _____ severity _____
 friend _____ reformer _____ teacher _____ weapons _____ indifference _____
 enemy _____ food _____ supporter _____ injustice _____ deprivation _____
 other _____ other _____ other _____ deception _____ other _____

6. Objects or figures omitted:

7. Nature of anxieties: (✓)

of physical harm or _____ of illness or injury _____
 punishment _____ of deprivation _____
 of disapproval _____ of being devoured _____
 of lack or loss of love _____ of being overpowered and _____
 of being deserted _____ helpless _____
 other _____

8. Significant conflicts:

between super-ego and: _____ conflicts between:
 aggression and reacts with _____ autonomy compliance _____
 acquisition and reacts with _____ achievement-pleasure _____
 sexual desires and reacts with _____ other _____

9. Punishment for crime: (✓)

just _____ too severe _____ lenient _____
 immediate _____ delayed _____ none _____

10. Outcome: (✓)

happy _____ realistic _____
 unhappy _____ unrealistic _____

¹ Reproduced with permission from L. Bellak and S. S. Bellak, An Introductory note on the Children's Apperception Test (CAT). *J. Proj. Tech.* 1950 11: 173-180 p. 179

tions to obtain necessary details with regard to the identification of the animal characters the event preceding the present set of circumstances, the attitudes, feelings and thoughts of the figures, and the outcome. The themes are analyzed in accordance with the areas indicated on the analysis sheet shown on the opposite page.

The *Manual* (Bellak and Bellak, 1949) does not report any reliability and validity data. There are, however, several cases demonstrating the interpretive value of the CAT themes in teasing out the dynamics of behavior. The present status of opinion with regard to the CAT is one of waiting for further clinical research to be published in the literature.

Four other thematic tests designed for use with children are Blacky Pictures (G. S. Blum, 1950), TAT (Murray, 1913), the Rosenzweig P F Study (1944-1948), and the MAPS (Shneidman, 1949). The predominant use of these devices has been with adults, but there are reports in the literature with regard to their value as child testing techniques. The Travis Johnston Projective Test (1949) is one of the less well known and little used devices for eliciting stories of parent-child relationships. It has been used in connection with three doctoral theses, but there are no reliability and validity data available for general use in view of the fact that the authors have not published a manual. The test consists of 88 pictures, 44 for boys and 44 for girls. Apparently free interpretation is to be made of the themes given to each picture. Holt's review of this test in *Buros' Fourth Mental Measurements Yearbook* (1953) reflects an unfavorable note.

SUMMARY

The cornerstone of the rationale for the use of specially designed stimulus material with children lies in the still unproved contention that children feel more comfortable when associating to animal characters than to humans and to peer age human figures than to pictures of adults. Evidence has been presented by proponents of the school of thought that story associations are quantitatively and qualitatively

richer to stimuli that are drawn from the child's fantasy world. Proponents of the other side of the issue, that children can respond more meaningfully to adult and to human figures (in contrast to adolescent and animal characters), have also presented significant evidence for their position. The evidence cited by most investigators cannot be construed as relevant to this issue since they use animal pictures and TAT plates to determine the nature of the thematic productivity. The studies by Biersdorf and Marcuse (1953) and Mainord and Marcuse (1954) are far more crucial as tests of the value of the animal or human figure as a stimulus for meaningful topical revelations by children. Regardless of the state of the controversy, it is not serious enough to keep child psychologists from increasing their use of such techniques as the CAT, the Rosenzweig P-F Study, the Michigan Picture Test, and the Adult-Child Interaction Test along with the other tools which include children's responses in their norms and interpretive suggestions.

A related issue is the suitability of using adult concepts in the interpretation of the child's story (Allen, 1951). This is a common practice among the less sophisticated psychologists and leads to an unsatisfactory perception of the child's dynamics as they apply to the child's behavior. The assumption that the child is a miniature adult is untenable both biologically and psychologically. This does not imply support for the notion of separate thematic stimulus material such as animals or child figures for the young testee and adult human characters for the older subject.

12. DRAWING TECHNIQUES

A RATHER BROAD DEFINITION OF DRAWING WILL BE used to classify tests of personality assessment included in this chapter. This encompasses those techniques requiring the subject to use a pencil or some other marking medium to produce or reproduce a drawing to complete a drawing or to make marks of any kind. This approach is acceptable as an expressive means of gaining insight into the testee's personality dynamics and structure. In most of these techniques the subject is asked questions and is encouraged to associate verbally to the graphic production. This varies from an extensive thematic type story telling to an inquiry designed to elicit answers to specific questions. Like most projective techniques the modes of administration, scoring and interpretation are quite flexible and depend in great measure on the purpose of testing and the orientation of the clinician. This chapter is organized around the degree of freedom to produce graphically that is afforded the subject. In the first group are those in which only verbal instructions are given to produce something e.g. a human figure, the inside of the body, an object or anything the testee desires. There is no sample design or model to follow beyond the testee's interpretation of the verbal instructions. The second category includes those tests in which the subject is given a partial visual stimulus to start with plus instructions to continue the part design. Finally, the third class of drawing techniques exposes the testee to a standard set of designs which are to be reproduced. All of these have a variety of modified ver-

sions; some of the modifications will be presented along with the original test.

TECHNIQUES WITH NO MODEL STIMULUS

The Draw-a-Person Test (DAP)

This technique is known by a number of other titles, viz., figure, person, man, or woman drawing test; the Machover (1919) test; and the Goodenough (1926) test when used as a device for assessing intelligence. This latter use has given way to the boldness of clinical psychologists in making personality inferences as elaborations on the sheer unadorned quantitative assessment of intelligence. The observing tester could not help but note the differences in the figures produced in compliance with the verbal instructions to draw a person or a man. The impetus that has made this test the most widely used clinical technique is Machover's (1949) analytically oriented volume *Personality Projection in the Drawing of the Human Figure*. The acceptance of this mode of personality appraisal stems from the notion that an individual's interpretation of his perceptions is deeply rooted in his own experiences. The physical and psychological experiences are "sensed" by the person in terms of his own physical equipment and his mode of integrating sensations arising from his body into a configuration of himself. For example, if the person is suffering from a cardiac condition, his self-perception or phenomenal self will contain in it an element of the importance of the cardiac muscle. The result might very well be overattention to this body organ or an attempt to avoid facing the problem by denying the presence of the cardiac organ. How this will be reflected in the individual's drawing of a human figure depends on the manner in which this portion of the person's value system is influenced by, and exerts an influence over, the other aspects of the total personality. Machover (1949, p. 5) points out that:

'The body, or self, is the most intimate point of reference in any activity. This investment in body organs, or the perception

of the body image as it has developed out of personal experience, must somehow guide the individual who is drawing in the specific structure and content, which constitutes his offering of a 'person.' Consequently, the drawing of a person, in involving a projection of the body image, provides a natural vehicle for the expression of one's body needs and conflicts. Successful drawing interpretation has proceeded on the hypothesis that the figure drawn is related to the individual who is drawing with the same intimacy characterizing the individual's gait, his handwriting or any other of his expressive movements.

These are the assumptions on which Machover structures an entire system of interpretation. Validity and reliability data are not given in this pilot volume since many of the interpretive principles are based on clinical insights, the associations derived from the postdrawing inquiry, and any other material the testee verbalizes during the examining session. S. Levy (1950) reiterates that the graphic productions, like any other behavior, do have meaning since they are the culmination of preceding determining forces. The point is, according to the proponents of this technique, that there is no less reason to consider actual smiling or grimacing any more expressive of one's needs, attitudes, reactions, or feelings than the pictorial representation of these activities.

The test is simple to administer. The essential procedure is to present the testee with a medium soft pencil, an eraser and several sheets of white paper, 8 by 11 inches. The subject is requested to draw a person, nothing more. The testee may ask a variety of questions as to what the tester has in mind, i.e., should he draw a whole person or a profile, and couldn't he be excused since he is not an artist. These must be handled tactfully without giving additional drawing guides. The subject is encouraged to turn in a complete drawing *without* pointing out omissions that have topical significance. Levy offers a suggestion with regard to how far the examiner should go in urging the reluctant drawer. The figure is divided into four major areas: the head, torso, arms, and legs. Complete omission of any of these may be called to the testee's attention, but part deficiency in any of these

areas is not. Observational notes that will be helpful in the analysis of the drawing are kept by the psychologist. When the first human figure is completed the subject is asked to draw one of the opposite sex. For example, should the first person be that of a man, he is asked to draw a woman, and vice versa. Most psychologists follow the drawing period with a postdrawing inquiry (PDI). The PDI used by Machover is presented on p. 251.

The parentheses enclose the central idea of the question to be put to the testee in relation to each of the drawings. This technique permits a great deal of flexibility in wording the specific queries on the level of the person being questioned.

The principles of interpretation by psychologists interested in this assessment procedure are pretty much a matter of individual orientation. Norms do not exist in the ordinary use of this term. Actually each tester derives a unique set of referents, largely dependent on the type of persons and patient populations with whom the psychologist has had major experience. From this emerges an individual frame of reference and a set of interpretive concepts. The figures may be surveyed for meaning by focusing on the different elements in the drawing, e.g., the significance of the face, the hands, the presence and absence of a line underneath the figure's feet, etc., or by gaining an overall impression of the total figure. In the first method each of the features of the drawing is scrutinized for manifest and hidden symbolic meaning. This is essentially the approach favored by Machover (1919). Royals (1919) evaluation of this sign or drawing characteristics assessment procedure discloses that none is statistically significant for differentiating between neurotic and control subjects. However, when scores for eight of these characteristics are pooled, approximating the holistic or impressionistic manner of interpretation, a more significant differentiation is discernible.

The material elicited in the postdrawing inquiry is as valuable as the drawings for making inferences regarding personality dynamics since it affords an opportunity to secure further pertinent data suggested in the drawings of the

MACHOVER FIGURE DRAWING TEST—ASSOCIATIONS¹

Name	Age	Date	No	M F 1-2
Problem	Diagnosis			
(Make a Drawing of a Person)		Remarks and Procedure		

Associations

(Doing)	(Age)	(Married)
(Children)	(Live with)	(More attached to)
(Brothers or sisters)		(Kind of work)
(Schooling)		(Ambition)
(Smart)	(Strong)	(Healthy)
(Good looking)	(Best part)	(Worst part)
(Nervous type)		(What's on his mind)
(Fears)		(Sad or happy)
(What gets him angry)		(Wish for most)
(Good points)		(Bad points)
(Mostly by himself or with people)		
(People say)	(Self conscious—stare at him)	

(Trust people)	(Afraid of them)
(Get along with wife)	(or parents) (Separated)
(Run around)	(Wife (or husband) run around)
(Sex with wife)	(First sexual exp)
(Steady girl)	(Expect to marry)
(Type of girl go out with)	
(Sex with boys)	(Ever approached)
(How often masturbate)	(What think of it)
(Whom does he remind you of)	
(Like to be like him)	

Patient's Self Appraisal

(Worst part of body)	(Best part)	-
(What's good about you)	(Bad about you)	

¹ Reproduced with permission from H. Machover, *Personality Projection in the Drawing of the Human Figure*, Springfield, Ill., C. C. Thomas, 1949, Table I, p. 31.

human figures and/or actually mentioned in response to the queries. The PDI of this procedure resembles the thematic mode of dealing with the subject's responses with the ex-

ception that in place of the standardized stimuli present in the picture story technique, the highly personal and unique stimuli are created by the testee himself.²

The validity and reliability of the DAP Test will be discussed as part of an overall evaluation of this technique. As applied to pathological and normal groups of subjects Modell and Potter (1949) report that there are sufficient differences in the human figures to enable them to differentiate among the patients suffering with arterial hypertension, peptic ulcer, and bronchial asthma. Berman, Klein, and Lippman (1951) test the diagnostic significance of four figure-drawing factors with a group of psychoneurotics by subdividing each of the four variables into relevant subelements with concomitant interpretations culled from various sources in the literature. For example, the second factor is presented in the accompanying tabulation.³

<i>Differential or Variable Factors</i>	<i>Significance</i>
II. Drawing as a Whole	
A. View	
1. Frontal—drawn by man	Sex inversion
2. Profile—drawn by woman	Sex inversion
3. Rear	Psychopathic
4. Rear view of female drawn by man	Impotency
B. Shading	
1. Excessive	Anxiety, preoccupied
2. Abnormal amount	Submissiveness
C. Erasures	
1. General	Anxiety
2. Specific	Disturbed concerning area
D. Lines	
1. Quick, bold	Cocksureness
2. Rigid, formal	Constricted
3. Darkly drawn	Anxiety

² While this may increase the spontaneity and freedom of association, it does make a highly subjective technique even much more so. This cannot facilitate the plaguing problems of validity and reliability.

³ Reproduced in modified form from A. B. Berman, A. A. Klein, and A. Lippman. Human figure drawings as a projective technique, *J. Genet. Psychol.*, 1951 43 57-70. Table 1 pp. 60-61.

<i>Differential or Variable Factors (continued)</i>		<i>Significance (continued)</i>
E	Posture	
	1 Leaning	Slight insecurity
	2 Seated	Manifest insecurity
	3 Straight up and down arms and feet together	Rigidity
	4 Lying down nude	Sexual preoccupation
	5 Grotesque with incongruities	Deep emotional instability
F	Movement	
	1 Acceptable drawing	Sign of brightness
	2 Violent scene	Aggressive
	3 Lack	Immaturity

The other three factors in this diagnostic system are the general aspects ' the details, and the accessories (clothing, furniture, etc) in the graphic production. These are considered separately in terms of their component subelements, and then a total factor impression is pulled together from these elements. Figure 25 illustrates the analysis of the figures of a man and woman for differential factor II.

These factors are correlated into a comprehensive report to give a picture of the subject's personality structure, dynamics, and intellectual level. The last sentence of the report summing up the testee who drew the humans in Figure 25 is:

The patient is an intelligent, depressed, anxious, insecure, aggressive, and rebellious individual. He seems to reject the father and mother figures and to hold back a great deal of hostility toward them. He appears to identify himself with an idealized picture of a man (p. 67). This is an example of how the sign approach may be worked into a general impression. Diagnostic classification is not the ultimate purpose in this kind of figure drawing analysis.

A survey of the voluminous literature about this technique and its modifications discloses that it has been employed to ferret out data for almost every conceivable kind of personality facet, utilizing many varieties of scoring and evaluative procedures. Lehner and Gunderson (1952) and Albee and Hamlin (1949-1950) are among those offering evidence for the reliability and validity of this technique as a means of



Drawing of a Man



Drawing of a Woman

FIGURE 25. The Analysis and Interpretation of the Man and Woman Drawings for Variable Factor II.

Differential or Variable Factors	Interpretation
II Drawing as a Whole	
A. View	
1 Man—Turning from left profile to half-right profile	Rejection
2 Woman—Turned slightly to left	Normal
B. Shading	
1 Man—Some shading	Anxiety
2 Woman—Some shading	Anxiety
C. Features	
1 Man—Around head and mouth	Preoccupation
2 Woman—Around arm and shoulder	Phallic symbols Preoccupation Phallic symbols
D. Lines	
1 Man—Firm	Intelligent
2 Woman—Sketchy	Rejection
E. Posture	
1 Man—Leaning	Insecurity
2 Woman—Leaning	Insecurity
F. Movement	
1 Man—None	Rigidity
2 Woman—None	Rigidity

(Source: Reproduced in modified form from A. B. Berman, A. A. Klein and A. Lippman, Human figure drawings as a projective technique *J. Genet. Psychol.*, 1931, 15: 57-70, Figures 2 and 3 and Table 2 pp. 61-65.)

studying personality dynamics a bit more objectively. Their studies show that it is feasible to assess the elements of the drawing on an *objective scale* as well as to subject the entire figure to pooled rater judgments with regard to degree of adjustment from the normal to the psychotic. The latter investigators cite interjudge reliability of .977, the validity of judgment of adjustment is .64—both coefficients significant at the 1 and 5 percent levels of confidence respectively. While these results apply to productions by adult subjects, Martin and Damrin (1951) report equally positive results in regard to the usefulness of this test with children in the kindergarten and the first two grades. The figure drawing test has differentiated between male homosexuals and non homosexuals (Barker Mathis, and Powers 1953), while its value for predicting lack of progress in psychotherapy is tentatively advanced by Fiedler and Siegel (1949).

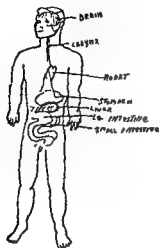
The above favorable findings did not go unchallenged and unquestioned for long. R. H. Blum (1954) could find no consistent significant agreements between the DAP and several of the empirical criteria of personality assessment, viz., psychiatrists' ratings, a battery of tests, and chief wardmen's ratings. This of course must not be taken too seriously since the reliability of psychiatrists' ratings (Ash, 1949), the reliability and the validity of the criterion tests in the battery, and the background, experience, and consistency of interpretation of behavior of the wardmen would have to be established beyond questionable doubt. G. Fisher (1952), in a more objective study, extracted 11 features of the drawings regarded by Machover as significant for differentiating the schizophrenic from the normal. No differences could be established from the drawings of the two groups of subjects. The identical nondifferentiating results with similar populations were reported by Stonesifer (1949) and by Fisher and Fisher (1950). The latter study involved both the atomistic, or sign, and the general impression approaches to the analysis and interpretation of the drawings. Most of the reported studies revolved around the inappropriate use of this technique to differentiate among psychiatric and psychological

categories rather than to unfold dynamics of behavior. Moreover, insufficient attention had been paid to the significance of testees' verbal associations during and after the drawing period.

Inside-of-the-Body Test

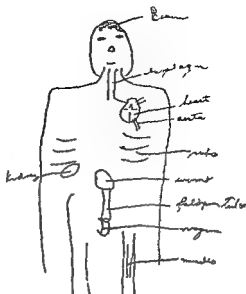
This modified version of the DAP Test has its origin not only in Machover's work but also in the writings of Schilder (1950) who pioneered in the clinical, neurological, and psychoanalytical aspects of the development and significance of the body image for the individual. This technique is different in that the subject is instructed, according to Tait and Ascher (1955, p. 139), to "Draw the inside of the body, including all the organs." Three minutes later, he is instructed to "Draw a line from each organ to the outside and label the organ on or next to the line." Theirs is the only report on the use of this technique. The drawings of mentally ill, mentally deficient, and normal persons are analyzed for organ systems drawn and omitted. Tentative norms and interpretive principles have been established on the basis of these drawings submitted by 100 neuropsychiatric patients, 100 Naval Academy candidates, 50 medical and surgical patients, and 22 sixth graders. Not all omissions, the authors comment, have pathologically topical significance for the testee (a fact that is not too well accepted by some DAP enthusiasts). For example, sixth graders do not identify the gender of their body drawing by means of sexual organs, while adults employ this means of designating the sex of the body representation. Figure 26 presents an Inside-of-the-Body drawing of an adjusted person (A) and a paranoid schizophrenic (B).

The authors do not claim unquestioned validity for this technique as a psychiatric classifying instrument. Differentiation between psychiatric and nonpsychiatric subjects shows a great deal of overlap. The greater contribution is in making available clues to psychological and medical pathology of the patient either as a supplement to the interview or as a quick screening device. Their final conclusion is, in part, "Further study will be made of the possible use of the test in psychiat-



A

Drawn by an 18 year old, single, high school graduated Navy seaman recruit who was approved for submarine school and found to be without any psychiatric disability.



B

Drawn by a 35 year old married, college graduated businessman with paranoid schizophrenia who had 10 years of intensive outpatient psychotherapy. He has diabetes mellitus, oculogyric crises, impotence, and almost overwhelming fantasies of being assaulted.

FIGURE 26. Inside of the Body Drawings of an Adjusted Person (left) and a Patient Diagnosed as Paranoid Schizophrenia Plus Other Physical Ailments (right) (Source C. D. Tait and R. C. Ascher, *Inside-of-the-Body Test*, *Psychosom. Med.*, 1955, 17:139-148, Figure 1, p. 141; Figure 6, p. 146)

ric screening and in the investigation of psychosomatic problems, especially the possible implications of differences in system emphasis" (p. 148). There can be no disagreement with this immediate research goal.

House-Tree-Person Test (HTP)

This technique has been developed over a period of years by Buck for use with adults. Studies appearing in the litera-

ture indicate its widespread use in the service of children. The essential concept for the person portion of the HTP Test need not be repeated in the light of the rationale discussed for the two preceding tests. However the house and tree aspects of this procedure need some elaboration. Unfortunately none is available in Buck's *Manual* (1948) beyond this statement: "It is postulated (1) that each of the drawn wholes (House Tree and Person) is to be regarded as a self portrait as well as the drawing of a specific or composite House Tree or Person since subjects are believed to draw only those characteristics of a given whole which they some way regard as essential and often those characteristics are found on objective appraisal to bear little resemblance to that which the subject says he has reproduced." (p. 4)

This can hardly be considered an adequate theoretical statement or a satisfactory explanation of why the HTP enjoys such widespread use. The simple assumption appears to be that the subject's drawing activity is symbolically identical whether it is in response to the request to produce a house or tree or person.

The test is easily administered. The testee uses a pencil to draw a house tree and person (achromatic form) on either the form devised by Buck or on plain white paper. Buck requires a rather close observation of the time elements, the sequence of the appearance of the graphic details and recording of verbalizations and emotional behavior. This is followed by an elaborate postdrawing interrogation (PDI) consisting of 61 questions about the pictures. A further step has been added by Buck (1951) requiring the subject to repeat his drawing performance using any combination of crayons (chromatic HTP) made available for this purpose. An abbreviated PDI of 20 simplified questions is the final step.

The scoring is quite complicated and covers in a systematic manner every possible aspect of these pictures. Each detail is defined so as to reduce to a minimum the examiner's subjectivity. On the basis of the grand total raw score accruing to the three drawings, the subject's intellectual level may be determined. The method of qualitative analysis lead

ing to the disclosure of personality dynamics is distantly akin to the inkblot approach in that inferences are drawn from the configurational and detailed qualities of the pictures. Buck gives interpretive concepts with evidence from cases. The validity and reliability data are presented by implication rather than by statistical correlations. Landisburg (1947) strongly supports this technique. She presents a series of drawings and gives an interpretive analysis of each—with no outside criteria for the validity of these interpretations.

Subsequent studies with this procedure disclose a decided preference for a nonformal interpretation of the data. Jolles (1952) assessed several hypotheses applicable to children and concluded (1) that children tend to draw persons of their own sex first and that this bears out Buck's contention that the gender of the drawn person represents the felt sex role of the child; (2) that opposite-sexed drawings are to be interpreted with caution; and (3) that drawing a phallic tree (so called because Jolles has found this to resemble in one way or another the male phallus) is symbolic of a psychosexual concern (not necessarily pathologic). By the testee Michal Smith (1953) finds that the line quality characteristic of the HTP figures is related to abnormal electroencephalographic (EEG) readings and may be a predictor of some cerebral pathology.

Sloan (1954) points out that Jolles' studies have not in any way validated the HTP but have merely presented a series of observations with some inferences drawn therefrom regarding the psychosexual development of the subjects. His review of other HTP investigations elicits the comment that the inferences are themselves implicit rather than explicit. The consensus (Buros, 1953) is that the HTP technique may be fruitful in the hands of a skilled clinician who appreciates when he is using the standards of a scientist and of an artist, i.e., who knows when the concepts being used are anchored to acceptable evidence and when the concepts have been formulated with insufficient verification of their basic postulates. It is too complex for service in a busy clinic, and the data may not warrant the time and the effort put

into obtaining them. Most of those who have written about the HTP agree on the need for caution and further validation research.

Finger Painting

Formal observation of the finger painting activities of children as a source of information regarding differences is attributed to Shaw (1934). Others subsequently have exploited this method, but the earliest systematic exploration is Napoli's (1946) monograph *Finger Painting and Personality Diagnosis*. Like the other drawing techniques, this is rooted in the logic of the reflective nature of the individual's self-expression in pictorial productivity. In brief, the content and manner of producing the painting are media of expressive behavior which originate in the personality structure and dynamics of the painter. The freedom is almost complete since the verbal instructions do not limit the subject to any particular content. The only restrictions are the size of the paper and the variety of finger paints.

Napoli (1946) states that the diagnostic role of finger painting is no greater than its therapeutic value, i.e., a simultaneous process is going on as the individual expresses his needs and press; this very expression acts as a safety valve for the release of some tension.

As recommended by Napoli, the materials for finger painting include six nonpoisonous pigments—blue, black, brown, green, red, and yellow—that are water soluble, a water resistant surface for painting, finger paint paper 22 by 16 inches with a clay glaze side for receiving the paint, a large pan for wetting the paper and a small pan for holding water which the subject can sprinkle on the glazed paper as required, a spatula for removing the paint from containers and pans, and a pail of water for cleaning up. Some demonstration may be necessary to acquaint the testee with the different kinds of lines that can be made with various parts

that can be recorded and utilized in an interpretation of the dynamics being unfolded. The production may be evaluated on a large number of elements but the present trend is to obtain a symbolic interpretation of the overall painting aided and abetted by the subject's verbalizations as he attempts to explain what he is doing or has done. The formal aspects are checked on a four page Finger Painting Record Form that is not too widely used. Napoli's *Manual* cites six cases complete with drawings, associations, observations and diagnoses. The dynamics of behavior and the causative factors in behavior are secondary to the subject's stories and the diagnosis. In a subsequent paper Napoli (1947) discusses a series of interpretive concepts involving the selection of color(s), type(s) of motion, rhythm, texture, balance and order. Symbolism in the paintings and the latent meanings in the testee's verbalizations play important roles in these interpretive principles. These have been empirically derived but they have not been verified in an acceptable manner. Some of the notions are not too far removed from intuitive clinical judgments. Napoli is aware of the lack of adequate validity data. This work, however, is being done within the context of the usual validation framework. Campbell and Gold (1952) report a positive relationship between the material from psychiatric interviews and psychological tests on the one hand and finger painting signs on the other for a mentally ill population. O'Grady (1954) used this technique with intellectually retarded children to establish differentiating signs between retarded and problem children.

An evaluation of this technique leads to the conclusion that objectivity in interpretation is not a strong characteristic of the users of this device. The research has been quite sparse but its greatest application is in child guidance centers primarily as a play or therapeutic device although the revelatory quality is usually not overlooked. If only for this reason the finger painting technique has found a place among the clinical tools.

Two minor versions of the free drawing techniques are the Scribbling Game (Elkisch 1948) and Doodles (Berger 1954). The former is a therapeutic tool which has been

developed into a diagnostic technique. Elkins avers that she can deduce dynamic material as a result of observing a child's activity with various writing instruments (pencil, crayon) and even clay. The unique value of this approach lies in following the individual's productions over a period of time, paying particular attention to the changes in the nature and content of graphic activity and the verbalizations. The doodling procedure is well known because newspapers occasionally print the doodles of famous persons with attempts at interpretation. The assumption is simple—that this is another vehicle by which unconscious motivation, personality dynamics, and attitudes find expression. Prinzhorn (1923) and others have reported their own unverified findings of the role of doodling in differentiating among psychiatric groups. Berger (1954) studied doodles and personality assessment a bit differently. Whereas in most of the investigations subjects were asked to produce some sort of design (on the level of awareness), Berger collected the lecture notebooks of 57 students and studied the doodles made by these persons presumably while listening to lectures in class sessions. The doodles were formally surveyed for spatiality or degree of tightness, shading or fill in, and size of the design. In addition, the subjects took the Guilford-Martin Personality Test (1918) as the criterion for the measurable aspects of personality with which three doodling attributes could be compared. Briefly, Berger obtained a correlation of .75 between graphic constriction or tightness and neurotic tendency or *N* (i.e., the more constricted the individual, the higher the neurotic index on the personality inventory); filling in or shading the doodle design was directly related to submissiveness and inferiority feelings (*I*), and, finally, the size of the design correlated positively with *G-M* general activity but only to the extent of indicating a trend because of the varying sizes of the notebook pages.

The Graphomotor Technique

Elkins contends (1951) that the Scribbling Game, applied to adults with some minor differences, is the parent of the

Graphomotor Technique. Kutash, on the other hand, attributes to Gehl the original idea which culminated in this procedure (Kutash and Gehl, 1954). The theoretical structure is rooted in the hypothesis that the activity of an individual expresses the basic personality make-up. With regard to the testee, they write: "Thus, his graphomotor production, his behavior during the test, his ideation while expressing himself in psychomotor fashion, his recall and conception of what he did, his visual perception of an delineation of content, and his associations to the content are all manifestations of his personality in action" (p. 31).

The testee is blindfolded during the first portion of the test. After being given a pencil he is instructed to ". . . move the pencil freely on the paper but try not to make anything in particular." This activity goes on for five minutes and is repeated on a second sheet for another five minutes. With the blindfold still on, the subject is asked to tell what he has drawn on the two sheets and the ideas he had in mind when working on the sheets. The second part of the test is to expose the two sheets, one at a time, under an onion-skin sheet with instructions to ". . . outline any objects, pictures or figures, of any kind whatsoever, that you see or can imagine." Finally, the testee is asked to associate to each of the objects, pictures, or figures he labels. This is followed by the formal scoring of a large number of elements in the subject's productions. This is accomplished with a six-page *Individual Record Blank*. It is interesting to note that three or four pages of this blank are devoted to an analysis of the subject's verbalizations. It would seem that the testee's ideation and thought content play prominent roles in gaining insights into personality structure and dynamics.

Kutash and Gehl cite high reliability data for the scoring procedures. With regard to the validity of this technique, they detail 17 test signs that differentiate between normals and schizophrenics. More useful, from the viewpoint of the clinical psychologist, are the interpretive principles proposed by the authors for the various test factors. For example: "Pencil Pressure—The subject may express his degree of aggression through the amount of pressure he exerts on the

pencil. Thus, heavy pressure may represent a greater amount of aggressiveness while light pencil pressure reflects passivity (pp 79-80)

This goes on to stress the variations in pressure as motivated by fluctuations in aggressiveness due to the waxing and waning of tension and conflicts. No evidence beyond clinical observations is offered to support this and other principles detailed in the *Manual*.

TECHNIQUES WITH PART DESIGN STIMULUS

In this group of projective personality evaluation techniques the subject is confronted with some lines, arcs, and suggestive partial patterns with instructions to complete the picture in any way desired.

Horn-Hellersberg Test (H H Test)

Designed for subjects 3 years of age and over, this technique was first explored in a systematic manner by Hellersberg (1915-1919, 1950) and built, in part, on lines extracted from famous paintings and used in the Horn Art Aptitude Test (1939-1951). 'The blank,' wrote Hellersberg (1950, p. 9), 'with its lines which both stimulate and restrict, plus the directions provides a task which approximates demands that individuals meet in everyday living. Therefore the test can be considered a reduced reality demand. Upon analyzing the products of the drawings as well as the comments made by the subject, we found this procedure a welcome medium for the study of the individual's relation to reality.'

The assumption is that somehow the testee's completion of the lines into some pattern or design is meaningfully related to his needs and press and the manner of meeting them. The rationale is not much different from the logic behind the DAP, for example, with the exception that some limitation is placed on the completeness of the subject's freedom. It is difficult to see, however, how the testee's relation

to reality is any more inherent in these lines extracted from famous paintings than any other random or specific pattern of lines

The test consists of a four page booklet. The first three pages contain four squares each while the last page has a single blank square. The squares of the first three pages have two to four lines in each around which the subject completes the design. Figure 27 illustrates page 1.

The testee is requested to draw a picture in each of the squares using the lines printed therein. This is followed by a postdrawing interview in which the tester attempts to secure topical data in an atmosphere of impersonality since the questions are centered about the drawn pictures rather than the subject himself. Each of the pictures is probed as minutely as the testee will permit. The examiner analyzes the graphic productions on a chart which evaluates the drawings with regard to their relation to reality from a close tie to the everyday world of the individual at one end to loss of reality contact at the other. Additional areas of assessment are the extent of emotionality expressed in the drawings and the presence and use of such defense mechanisms as repression and rationalization. The form elements are also scrutinized for composition, movement, originality or conventionality, etc. Finally due consideration is given to the individual's associations and verbalizations obtained during the suggested intensive postdrawing interview. Hellersberg has administered this test to quite a large adolescent population and to a group of Pueblo children. The evidence supporting the interpretive assumptions of this test is insufficient. The concept of reality requires further study and it may very well be that this technique is the appropriate tool for that job. It is also a feasible means of ascertaining the stages in the development of the child's perception of his milieu as graphic representations reflect this growth. Ames and Hellersberg (1949) have accomplished this for children 3 to 11 years of age. It is with regard to the deviations from the peer age group of a given child that reality relation could conceivably be measured. However

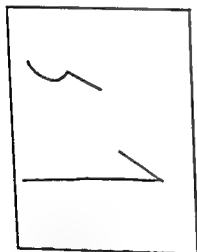
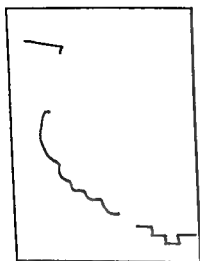


FIGURE 27. Horn Hellersberg Test Page I (Source E. F. Hellersberg *Horn Hellersberg Test* New Haven Conn., The Author, 1945-1949)

divergence from group conformity need not necessarily mean reality loss. *Certainly much of the dynamically significant material stems from the usual associations elicited in connection with the pictures.*

Modifications of the Horn-Hellersberg Technique

GEOSIGN TEST. A variation of the H-H Test is the Geosign Test by Reichenberg-Hackett (1950) in which the subject is given a sheet of paper with a single mimeographed geo (metric) (de) sign as in Figure 28.

The testee is asked to draw anything and then to verbalize his associations. This is followed up with a written introspective report of the subject's emotional and intellectual feelings, attitudes, and reactions during the drawing period. The figures are examined for several features: the degree to which the geosign is integrated into the final drawing; the extent of constriction or expansion of the total figure beyond the limits of the geosign; details; movement; shading; and detectable mood in the completed drawing. In addition, some formal characteristics are included, viz., quality of the lines, their fluidity and variations in directionality, pressure, etc.



FIGURE 28. Design for the Geosign Test. (Source: W. Reichenberg-Hackett, *The Geosign Test*, *Amer. J. Orthopsychiat.*, 1950, 20:578-594, Figure 1, p. 579.)

The interpretive hypotheses differ little from those postulated for the other drawing techniques. The emphasis of this technique, however, is on its usefulness as an adjustment screening device. Reliability data are not available, while validity evidence is not systematically presented beyond comparisons with Rorschach Inkblot findings, judges' ratings of testees, and California Personality Test scores. Too little work has been done with this technique for a definite conclusion regarding its value.

SYMBOL ELABORATION TEST (SET). Krout's (1953) Symbol Elaboration Test (SET) is another version of the completion-type test. The test consists of a series of 11 stimulus patterns representative of a symbolic expression of a phase of life experiences. For example, the first stimulus pattern is a semicircle



The symbolism is given in these terms (Krout, 1953, p. 4): "1. *The semi-circle pattern.* It seems to be a safe assumption that any human society provides its members with the experience of 'femaleness.' This implies only that every individual learns to differentiate between the two sexes."

Another stimulus pattern consists of two semicircles



On the basis of the drawings of 169 subjects in the five groups named above, Krout reports an overwhelming percentage of corroboration between the symbolic meanings of the drawings and supportive evidence from other sources (the criterion data). Having accepted the universality of the symbolic stimulus patterns, the conclusion is drawn that emotional dynamics can be inferred from the nature of the subject's completions and associations thereto. The implied dynamics are more applicable to persons in the American culture than to the Indian culture. The last finding seems to decrease the strength of the argument for the universality of the symbols—a fact which militates against the basic rationale of this technique since it is fundamentally founded on the acceptance of the symbols “. . . as carrying certain nonconscious implications.” The role of verbal associations to the inquiry questions is to provide insight into the testee's attitudes toward these symbols. The whole procedure rests on the acceptance of universal symbolism and its psychoanalytical interpretation. The Freudian-oriented clinician is most comfortable with this type of technique.

COMPLETION TEST. A unidimensional drawing-completion test is Franck's (1954) Completion Test for assessment along the masculinity-femininity dimension. Figure 29 is a sample of the stimulus pattern on page I of the test.

Franck and Rosen (1949) explain that a culture-free test of psychosexual role-taking is necessary in order to minimize deliberate dissembling in the direction of social acceptability. Verbal questions, no matter how well disguised, usually reveal their purpose. A projective test, reason Franck and Rosen, can be much more subtle in its approach since the subject does not recognize the essential nature of both the stimuli and the resulting graphic productions. Unlike the preceding test, the differentiation in role-playing is based on empirical evidence rather than universal symbolism.

The testee is instructed to complete the 36 drawings. There do not seem to be any suggestions with regard to obtaining the testee's verbalizations either during or after the drawing period. The drawings are then scored in accordance

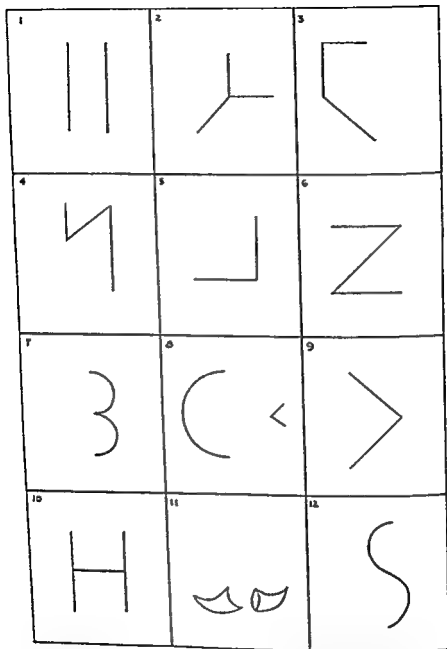


FIGURE 29 Page 1 of the Franck Completion Test (Source: K. Franck and E. Rosen, A projective test of masculinity/femininity, *J. Consult. Psychol.* 1949 17:247-256 Figure 1, p. 248)

with a schedule detailed in the *Manual*. The criteria of the masculinity (\checkmark) and femininity (+) of various features of the drawings are derived from standards established on 150 male and 150 female college students. An illustration of the discriminating elements empirically determined with these groups is the tendency of men to close stimulus areas whereas women leave them open, as in Figure 30.



FIGURE 30 Men and Women's Completion Tendencies for Stimulus Pattern 30 (S30) of the Franck Completion Test (Source: H. Franck and E. Rosen, *A projective test of masculinity femininity*, *J. Consult. Psychol.*, 1949, 13, 247-256, Figure 3, p. 252)

A key with scoring principles and models for assigning a masculine check (\checkmark) or a feminine plus (+) sign to each completed figure is part of the *Manual* as well as norms for the masculinity femininity quality of the drawings by men and women subjects. The authors report high interscorer agreement for rating the drawings of the standardization subjects. These same scores differentiate significantly the graphic production of men and women. This may serve as reliability and validity evidence for the skill of the scorers but the instrument itself has not yet been validated. The authors recognize the experimental status of this technique and invite continued research in suggested areas. One such study is Shepler's (1951) investigation of the value of a projective test of masculinity femininity with two psychometric inventories. The highest degree of male female differentiation was obtained by the Completion Test, indicating that men and women completed stimulus drawings in

a different manner. Extent of masculinity/femininity must be inferred from these differences.

TECHNIQUE WITH COMPLETE DESIGN STIMULUS

The technique in this category is administered with the help of a standard set of visual stimuli. The task is for the subject to reproduce exactly what is received through the visual sense modality. The prototype test which will be discussed in this section is the Bender-Gestalt Visual Motor Test.

Bender-Gestalt Visual Motor Test (B-G)

Bender (1938) borrowed from the principles of Gestalt psychology (M. Wertheimer, 1923) to develop a clinical evaluation technique for subjects 4 years of age and over. In using Wertheimer's stimulus patterns (Figure 31), Bender postulated that perceiving them was not a summation of isolated parts. Rather, their perception was a total organized process in which the perceiver contributed to this organizing activity. She wrote:

The final gestalt is therefore composed of the original pattern in space (visual pattern), the temporal factor of becoming and the personal sensory motor factor. There is a tendency not only to perceive gestalten but to complete gestalten and to recognize them in accordance with principles biologically determined by the sensory motor pattern of action. *This pattern of action may be expected to vary in different maturation or growth levels and in pathological states organically or functionally determined* (p. 3) (Italics added).

Briefly, it was Bender's contention that the individual's perceptual/organizing activity was reflected in the end product and that part of the organizational process inhered in the subject's psychological and/or organic state(s). Bender recognized the adaptability of this technique as a clinical tool and applied this test to a wide variety of psychiatric

and organic states. The purpose of testing was to detect these pathological conditions and the reason for the divergence of the reproduced designs from the models

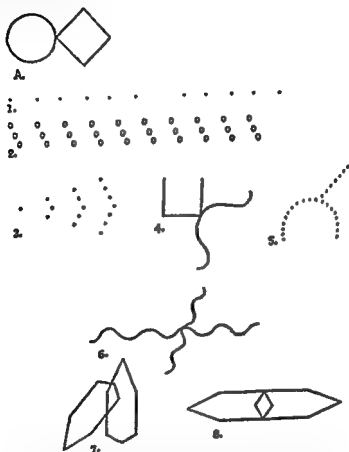


FIGURE 31 The Bender Gestalt Visual Motor Test Designs (Source L. Bender A visual motor gestalt test and its clinical use *Amer Orthopsychiat Assoc Res Monogr*, 1938 3, Plate I p 4)

Differences in the graphic reproductions of two patients are shown in Figure 32. Figure 32 (A) is the protocol of a 30 year old female dementia paralytica (general paresis) patient, while Figure 32 (B) is the record of a 39 year-old female schizophrenic.

Compare the reproductions in this figure with the model designs in Figure 31 for an appreciation of the differences in the total figures and the absence, presence, and distortion of details. The paretic [Figure 32 (A)] produces fragmented micrographic reproductions because of a poverty of impulses, a tendency to fragment the structure of the gestalten determined by (their) superficial appearance (Bender, 1938, p. 80). The subject is confused because of the organic pathology and its psychological manifestations and therefore shows no interest in the situation. The designs of the schizophrenic show significant indices of her condition: marked constriction of the figures, rotation of most of the reproductions from the horizontal to the vertical plane, dissociation or fragmentation in a bizarre manner [see Figures 4 and 5 in Figure 32 (B)], use of dots in place of lines, and distortion of the total configuration of some of the designs.

Billingslea (1948) devised one of the first schemes for scoring the B-G reproductions. He included 63 indices in his procedure for enhancing the objectivity of measurement and scoring. His overall conclusion on the basis of a study of neurotic and normal soldiers did not support favorable validity and reliability. However, he did feel that this technique could be meaningful to the clinician who observed behavior in this standard testing situation and used these for deriving inferences regarding personality dynamics.

Other scoring systems have been developed by Peek and Quast (1951) and Pascal and Suttell (1951). The latter is the better known and more widely used scheme. Both detail minutely the various categories of scoring the reproductions. The scoring manuals are profusely illustrated to help the examiner evaluate the drawn designs for the various elements to be scored. Pascal and Suttell quote interscorer reliability of .90 and consider test-retest reliability fairly consistent but not high. The authors feel that this type of test cannot yield the same kind of reliability as do the psychometric tools. Their validity data consist of comparisons of patient and nonpatient scores which differentiate substantially be-

tween neurotic and psychotic groups Addington (1952) and Lonstein (1954) report favorable results with the Pascal and Suttell scoring system and offer their findings as evidence for the validity of the B G Test

Its greatest use clinically is to help in the detection of brain damage This test lends itself much less than the other drawing-completion techniques to eliciting behavioral dynamics Diagnostic inferences are based on the manner of executing the model reproductions as well as the final product since both reflect the perceptual organizing process Distortion and misperceptions reveal by their graphic representations whether they stem from faulty cortical organization or dissociated loss of contact with the reality of the model designs It would be extrapolating beyond the data to imply idiodynamics from this alone

There is one modification of the B G Test that merits mention The subject may be shown the model designs and asked to reproduce them with any changes desired This is followed by an association inquiry to secure the subject's reasons for the divergence from the models This, of course, approaches more closely the type of procedure for the techniques discussed earlier in this chapter The elaborations and verbalizations add more material with which the tester may make dynamic personality inferences There are many claims but little evidence for the flights of fancy taken by some clinical psychologists in the interpretation of the symbolism read into the elaborations

it another way, which are not specific enough to make objective measurement more than an unrealized hope. Furthermore, where some semblance of measurement objectivity has been achieved, it is not accompanied by an equal degree of interpretation objectivity.

The semistructured drawing tests which offer the testee a starting point do reduce the range of responsiveness and make possible some mechanical measuring schemes. Objectivity is thus increased, but the problems of interpretation still remain to be solved. In the final category an imitative task ordinarily limits completely the spontaneity and freedom of self expression by the subject. The very nature of the test yields graphic productions that can be objectively measured with ruler, compass, and graph charts for length, width, angularity, rotation from the major axis, etc. This is very acceptable, but it reduces the degree of insight into personality dynamics that may be inferred.

An overall evaluation of the drawing and drawing completion techniques is that they are prone to permit too easy inferences of personality dynamics on insufficient grounds. Test and interscorer reliabilities may be established for most of them. Validity, on the other hand, is not a strong characteristic of these procedures. This has not deterred clinicians from their continued use. What is essential now is continued and intensive *systematic* evaluation of the data to establish more accurate validity and reliability.

ADDENDUM

There is an approach to personality evaluation called expressive movement which is now beginning to receive more attention from American psychologists. It includes handwriting, gestures, gait, hand shake, sitting and standing positions, and speech (see Victor, 1952, C. Wolff, 1945, 1952 and G. W. Allport and Vernon, 1933). G. W. Allport and Vernon define the area of expressive movement as being concerned with *individual differences in the manner of performing adaptive acts, considered as dependent less*

upon external and temporary conditions than upon enduring qualities of personality" (p. 23). This description of the purview of the study of expressive movement is so inclusive that there is very little about the person, his daily acts and activity, that cannot be considered as an aspect of this technique.

Handwriting analysis, or graphology, as discussed here differs from the popular variety in that the evaluations are theoretically the result of systematically controlled investigations of the relationship between handwriting features and personality attributes. Furthermore, these studies are replicable, thus permitting cross validation by other researchers. The early history of the efforts to relate handwriting to personality attributes is more authoritative than authentic. The beginnings of scientific procedure are ascribed to Klages' (Stein-Lewinson, 1938) attempts to develop fundamental concepts of associating human character with graphological expressions. G. W. Allport and Vernon (1933) brought this technique rather dramatically to the attention of American psychologists as a device to be investigated further.

Victor (1952) describes handwriting as spatial motion which leaves behind a graphic record of the personality structure and dynamics of the writer. He presents in detail a method of handwriting analysis which is an admixture of the artistry of intuitive interpretation and the wariness of scientific caution, with less emphasis on the latter. The difficulty with the mass experimental mode of standardizing graphological personality data is that the group average does not tell the story of the individual. It is for this reason that experimental evidence is by far the smallest part of the foundation for the science of graphology. Other investigators have approached the issues in handwriting analysis more objectively than the accumulated anecdotal method of Victor. Secord (1919) reports his study in which judges match 50 sets of line drawings, handwriting samples, and TAT stories. The handwriting samples and line drawings correlate slightly above chance, while handwriting samples and

TAT stories correlate no better than chance J E Bell (1948) reviews the history and present status of handwriting analysis and cites investigations designed to relate handwriting to personality both atomistically and holistically He is impressed with the lack of adequate validity evidence to support handwriting analysis as a proper means for personality assessment Some of the studies he characterizes as being poorly designed although the better experiments do not yield any more significant results In fairness, though, he does express the opinion that handwriting may be a source of pertinent personal data regarding the client of the clinical psychologist

Twenty two handwriting signs such as upper zone height, mid zone height, etc, show insignificant correlation with personality traits, e g, emotional stability, intelligence, etc (Birge, 1954) Birge does not describe his findings as negative evidence for handwriting analysis as a personality evaluative technique Rather he points out that too little is known about personality variables and their congruence with behavioral signs to give better than inconclusive results

Gesture precedes speech and writing as a means of communication And even after speech has been acquired, characteristic gestures remain with the individual Not only the hands but other parts of the body also assume roles as organs of expression The motoric features of behavior become part of the person's style of response so that he can be recognized from his gait, speech, general posture, or almost any other behavioral manifestation Two assumptions, according to G W Allport and Vernon (1933) are involved here first, that personality is consistent and is reflected in the individual's action, second, that behavior or self expressive acts are themselves consistent for the same person from time to time and for the individuals in the group The latter is simpler to study than the former Interpretation of expressive movements is dependent upon establishing the validity and reliability of these two assumptions In this same survey Allport and Vernon find that they can report favorably on

the meaningfulness of motor acts as mirroring the personality. They point out that this conclusion holds with regard to the "broader aspects" and not for the specific and consistent congruence between a motor act and a personality variable. Wolff and Precker's (1951) later survey of the validity and consistency of seven modes of expression and personality—facial, hands, gait, literary and artistic style, style of speech, painting and drawing, and handwriting—shows favorable results for identifying persons and for understanding behavior. This is an important ingredient in the diagnostic analysis and understanding of the dynamics of the child in play analysis and play therapy. With ever increasing interest in developing the theory and efficiency of the projective method, this projective technique will become more useful.⁴

⁴The student interested in further exploration of the role of psychomotor activity in personality evaluation would do well to read King's *Psychomotor Aspects of Mental Disease* and Witkin's *Personality Through Perception*. King's major conclusions point out that motor activity is an essential feature of adaptation and mental disorder is reflected in disturbed psychomotor activity. Therefore, understanding the nature and etiology of psychomotor dysfunction leads to insight into the underlying personality dynamics.

13. THE ASSOCIATION METHOD

TWO EVENTS BECOME JOINED WHEN THEY OCCUR together in time and space. Thus, by repeated usage in the American culture, 'ham' will most often elicit the response 'eggs'. The same psychological phenomenon is seen in the temporal spatial field of the individual. It is not unreasonable to assume that a word (or words) symbolic of an idea (or ideas) can elicit another word (or words) representative of an associated idea (or ideas). Whereas common or repeated usage accounts for the socially stereotyped word associations, so must the repetition of ideas and experiences in the life of the individual store up personal stereotypes. These 'await' the proper stimulus word(s) to bring them to the level of awareness and overt verbalization.¹ This, in essence, describes the theoretical framework for the techniques discussed in this chapter. Close examination of the process discloses that the association method is not too different from the inkblot, thematic, or drawing procedures. In each the testee is required to dip into his apperceptive mass or storehouse of knowledge in order to respond to the blots, pictures, and stimulus patterns. Since the person is the source as well as the locus of acts, his experiences, needs, press, and attitudes furnish the content of which behavior is the observable, recordable, and, in many instances, the measurable manifestations. The tester's immediate concern is to elicit behavior which will lead to the dynamic inferences.

¹ The assumption is of course that the stimulus and response words are expressions of the individual's private world.

and interpretations that characterize the individual's perceptual organization and response to the forces in his life space

The techniques considered in this chapter are word association, sentence-completion, and story-completion procedures and their modified versions. The division is based on the nature of the stimulus—a word, a phrase, sentence(s), or ideas—to which the subject must respond with the first word, phrase, sentence(s) and further elaborations to complete the engram or memory picture engendered by the stimulus. These stimuli are administered verbally and visually. The common threads running through these tests are the dynamic aspect of memory which includes the subject's attitudes toward the events, persons, and objects in his life; the sensitizations and ego defenses of coping with the variety of phenomena in the field; and the links between these facets of the life space and the individual's reactions to them. Munroe (1955) draws the analogy between the free association of the psychoanalytic interview and the free association of these techniques.

WORD ASSOCIATION TECHNIQUE

The history of this procedure in psychology goes back to Galton (Rotter, 1951). It has been used since then by investigators for a variety of reasons (see G. W. Allport, 1921; Rotter, 1951; and Schafer, 1945). Attention will be focused on the application of this technique to personality evaluation. The lead was furnished by Jung (1910), Kent and Rosanoff (1910), Dooly (1916), and Hull and Lugoff (1921). Currently the Jung, Kent-Rosanoff, and Rapaport (1916) word lists are most often employed. These tests are rooted in the rationale that personality attributes find expression in the manner in which an individual responds to stimuli which initiate a chain of associations. It is further assumed that these associations stem from the individual's past experiences and are integrated in the personality structure as attitudes and feelings about the objects, events, and persons in

the field Schafer (1945) suggests that in the association process there are two phases between the reception of the stimulus word and the enunciation of the response word. These process phases are ideational, usually below the level of the individual's awareness. In the first or "analysis phase" the word is associated with recalled specific experiences, ideas, attitudes, feeling tones, etc. It is during this period that conscious and unconscious forces play their roles prior to the second or "synthetic phase." Part of this subprocess of synthesizing the associated ideas into a one word response is selectivity which screens out some ideas and leaves one to be verbalized. This screening and relating to the stimulus word is labeled "anticipation" by Schafer. These associations are unique to the individual, but most persons give common or popular response words to the stimuli which serve as norms and as referents for idiodynamically divergent (uncommon) words. Neurotic and psychotic individuals (and groups) respond with idiosyncratic words or by complete or partial blocking according to the intensity of the conflictual associations engendered by the stimulus word(s). Such persons find that the associative process of the analytical phase is interrupted because of the ego alien nature of the material brought to consciousness with subsequent distortions in responsivity. These obliquities are manifested by less frequent or bizarre response words, delayed reaction time, complete or partial blocking, excess amount of homonyms and/or antonyms, and repetition of stimulus words or response words. Schafer (1945, p. 227) points out "In general, the stronger the defenses of the ego, the more will the attitude of conforming with the instructions and adhering to conventional conceptual patterns dominate the course of the associative process, the weaker the defenses of the ego, the more will deep-lying affects or repressed wishes push their representatives into consciousness or at least signal their presence by disturbing the associative process and causing a departure from conventional conceptual relationships."

A summary statement about the rationale of the word-association technique should include the assumptions that

clues to the dynamic content of the personality structure are afforded by the nature of the response words and the observable behavior associated with the responding process. Inferences regarding personality dynamics are derived from the specific analysis of the manner in which the testee adheres to the instructions to reply quickly with the first word that comes to mind. The analysis includes reaction time, commonness of the response word, signs of emotionality and the stimulus words to which these occur and other manifest behavioral accompaniments of response activity.

Jung Word List

This procedure originated in Jung's (1910) efforts to uncover unconscious material by requiring subjects to react as quickly as possible to a series of stimulus words. The list consisted of 100 words which Jung believed touched upon all complexes or areas of difficulty of people. He noted that the response words given to the stimulus words varied in content and in the time required for responding (i.e., reaction time) for different persons. Jung attributed the delayed reaction time of some persons to emotional involvement rather than to intellectual difficulty. The subject's inability to respond quickly and smoothly reflected the influence of strong feeling tone associated with the stimulus word and/or the train of memory pictures engendered by this word or the response word itself. Jung wrote: "In this case [long reaction time] the reaction to the stimulus word is disturbed. The stimulus words are therefore merely a part of reality acting upon us; indeed, a person who shows such disturbances to the stimulus words is in a certain sense really but imperfectly adapted to reality." (p. 226)

The test is simple to administer. After some rapport discussion, the subject is instructed to respond to the stimulus word as quickly as possible with the first word that comes to mind. Reaction time is kept with a stopwatch and the response words recorded. The tester should also make note of behavior observed during the testing situation. The responses are analyzed for average short and delayed reaction

times. The response words are then classified according to Jung's suggested system: (1) intrinsic associations viz., apple, pear, (2) extrinsic associations, viz., pen, sword, (3) clang or sound associations viz., one, wonder, (4) miscellaneous associations, viz., run (gun), rifle. Jung, however, was more interested in the complex indicators as insights into sensitive areas than in the word classifications. Deeply rooted in psychoanalytical concepts, Jung's word association procedure used the complex indicators to tease out underlying repressed ideas which were strongly tinged with feeling tone and therefore were influencing the individual's overt behavior. In connection with Jung's analysis Symonds' (1931) list of complex signs which had been culled from published word association studies centering about personality assessment is of interest.

1 *Long reaction time* This is the only quantitative measure available. Any reaction requiring over 2.6 of a second is usually considered significant.

2 *Inability to make any response whatever* Occasionally no response will be elicited even though time up to a minute may be allowed. Such failure to respond may be due to a number of factors, among which may be mentioned inhibition of any response, articulatory block, attention diverted by copious or diverting imagery, absorption in trains of imagery or reverie, competition of reaction words, or no meaning found in the stimulus.

3 *Extremely short reaction time*

4 *Repetition of the stimulus word itself*

5 *Apparent misunderstanding of the stimulus word* The psychoanalytic explanation is that in such cases there is a strong desire not to understand. But this explanation need not be assumed. In some cases, it may well be true that there was a definite misunderstanding due to faulty learning or indistinct or strange pronunciation on the part of the examiner. Perhaps in all such cases the prepotency of any part of the word is also influenced by competing ideas or images perseverating from previous associations.

6 *Defective reproduction of original reaction at second presentation of the stimulus word* In the reproduction experiment, if the second response differs from the first, suspicion of a source of irritation arises.

7 *Response with the same reaction word to two or more different stimulus words* This is sometimes called perseveration. Perseveration may be due to a certain complex or constellation which dominates consciousness, or to a poverty of ideas or to other more significant causes. In some cases where the subject suspects the nature of the experiment he may avail himself of perseveration to assist in concealment.

8 *Strange or apparently senseless reaction*

9 *Perseveration of ideas* In this case, though the exact word may not be repeated as in number 7, the same idea perseverates in two or more responses."²

Thus, each response word is classified and scrutinized for what it may reveal of the underlying dynamics of the testee. The Jungian approach, imbedded in psychoanalytic conceptualizations, emphasized the uncovering of the individual's basic drives.

Validity and reliability data were not given in sufficient detail to be helpful in establishing these desirable test qualities. Jung did find differences in response behavior among normals and neurotics, men and women, and educated and uneducated subjects. The purpose, however, was not to classify persons but to understand their behavior. Rapaport (1950) concluded on the basis of his review of the word association technique that this was a useful procedure for uncovering emotional feeling tones, attitudes, and problem areas. However, the investigators, he stated, introduced so many uncontrolled variables into their experiments and clinical studies that a definitive statement of validity and reliability was not feasible.³

designed to screen out psychotic individuals, its more recently stated purpose is to help in " . . . detecting pathogenic subconscious ideas or complexes " (Rosanoff, p. 884). According to Symonds this word list differs from Jung's. The latter locates common complexes by means of personally topical words. The Kent Rosanoff Word List, on the other hand, consists of commonly used words. Therefore it is more likely to elicit common responses. It is logical to assume, then, that deviant response words and other complex indicators are interpretively more significant as pathological signs. The key to the Kent Rosanoff rationale is the number of unusual words associated with the stimulus. The extent of a subject's divergence from the expected is gauged by departure from the norms presented in Table 14.

TABLE 14 Distribution of Types of Response Words for Normal, Psychotic, and Defective Subjects

Subjects	Common Reactions		Doubtful Reactions	Individual Reactions	Failures of Reaction
	Specific %	Non specific %			
1000 normal adults	85.5	6.2	1.5	6.8	
247 insane adults	66.4	4.3	2.5	26.8	
253 defective children aged over 9 yrs	75.2	8.2	2.1	13.0	1.5
125 normal white children, 11-15 yrs	82.0	7.2	1.6	8.6	0.6
175 normal white children, 4-10 yrs	62.7	4.2	3.2	18.8	11.1
125 normal Negro children, 11-15 yrs	75.3	7.2	2.5	14.9	0.1
175 normal Negro children, 4-10 yrs	54.1	3.5	2.5	33.2	6.7

SOURCE: Reprinted with permission from A. J. Rosanoff, *Manual of Psychiatry and Mental Hygiene*, New York, John Wiley & Sons, Inc., 1938, 7th edition, Table LXXIII, p. 887.

The norms are based on the responses of 2,100 adults and children. Other norms give the distribution of the responses of adults, white and Negro children, and the frequencies

with which response words have been given to the 100 stimulus words

The stimulus words, illustrated in Table 15, are given

TABLE 15 The Kent Rosanoff Word List and Recording Form

1 Table	26 Wish	51 Stem	76 Bitter
2 Dark	27 River	52 Lamp	77 Hammer
3 Music	28 White	53 Dream	78 Thirsty
4 Sickness	29 Beautiful	54 Yellow	79 City
5 Man	30 Window	55 Bread	80 Square
6 Deep	31 Rough	56 Justice	81 Butter
7 Soft	32 Citizen	57 Boy	82 Doctor
8 Eating	33 Foot	58 Light	83 Loud
9 Mountain	34 Spider	59 Health	84 Thief
10 House	35 Needle	60 Bible	85 Lion
11 Black	36 Red	61 Memory	86 Joy
12 Mutton	37 Sleep	62 Sheep	87 Bed
13 Comfort	38 Anger	63 Bath	88 Heavy
14 Hand	39 Carpet	64 Cottage	89 Tobacco
15 Short	40 Girl	65 Swift	90 Baby
16 Fruit	41 High	66 Blue	91 Moon
17 Butterfly	42 Working	67 Hungry	92 Scissors
18 Smooth	43 Sour	68 Priest	93 Quiet
19 Command	44 Earth	69 Ocean	94 Green
20 Chair	45 Trouble	70 Head	95 Salt
21 Sweet	46 Soldier	71 Stove	96 Street
22 Whistle	47 Cabbage	72 Long	97 King
23 Woman	48 Hard	73 Religion	98 Cheese
24 Cold	49 Eagle	74 Whiskey	99 Blossom
25 Snow	50 Stomach	75 Child	100 Afraid

SOURCE: Reprinted with permission from A. J. Rosanoff, *Manual of Psychiatry and Mental Hygiene*. New York: John Wiley & Sons, Inc. 1938. 7th edition pp. 854-954.

one at a time. The reaction time and response word are recorded in the appropriate box for each stimulus word. Behavioral notes are also kept.

Kent and Rosanoff have devised a detailed method for analyzing and classifying the response words. Each one is categorized according to whether it is (1) a common reaction, i.e., it is listed in the frequency tables,* (2) an in-

* A frequency table refers to the list showing the frequency distribution of 100 responses given by the normal population to the stimulus words. For example, stimulus word number 14, *hand*, is listed under it 116 re-

dividual reaction, i.e., the response word is not listed in the frequency tables. These frequency tables are the basic norms for measuring the deviations of the response words. The common reactions predominate in the records of the normal adults (see Table 14) to the extent of 93.2 percent of the responses. The psychotic, on the other hand, gives 73.2 percent common reactions and 26.8 percent individual reactions.

The individual reactions are the material with which the clinical psychologist works since they include the responses characterized as complex indicators. Kent and Rosanoff list 18 individual reactions not listed in the frequency tables and therefore pathologically significant. The authors offer no validity or reliability data for their word list. This procedure has stimulated a great deal of research in the second decade of the twentieth century, but little has been done in recent years with the Kent-Rosanoff Word List. Children's frequency tables have been established by Woodrow and Lowell (1916), and more recently Tresselt and Leeds (1953) have published Kent-Rosanoff frequency data for male and female college students in the age groups from 18 to 21 and 22 to 24 years.⁵ The response word lists in the Kent-Rosanoff and the Tresselt-Leeds frequency tables have many words in common. For some of these, however, the prorated frequencies differ. For example, the Kent-Rosanoff distribution for the stimulus word *table* shows approximately 26 percent of the subjects giving the reaction word *chair*. The Tresselt-Leeds frequency has 85 percent of the college students responding with this word. In addition, there are response words not common to both frequency lists, indicating that the Kent-Rosanoff Word List norms are not indiscriminately applicable to all subjects. This is especially significant

response words in alphabetical order from *anatomy* to *you* and ranging in frequency from 204 for *foot* to 1 for any of a number of words, e.g., *fat*, *handle*, *purity*. This is repeated for each of the stimulus words.

⁵ In a personal communication Dr. Tresselt has informed the author that she is publishing response word norms for the age groups 26 to 29 and 30 to 33 years in the *Journal of Genetic Psychology*.

O*	R*	O	R
14 chair	16	39 dog	15
15 boy friend	15	41 taxi	58
16 penis	18	42 mother	55
19 spring	12	43 table	31
21 suicide	21	44 beef	33
22 mountain	22	45 nipple	38
23 house	21	47 water	48
24 paper	6	48 suck	53
26 radiator	19	49 horse	28
27 girl friend	57	50 fire	52
28 screen	17	51 vagina	25
30 frame	20	52 farm	35
31 man	36	55 taxes	37
33 movies	12	56 tobacco	26
34 cut	11	58 intercourse	59
36 bite	44	59 hospital	56
38 dance	16	60 doctor	39

*Additional words not in common**Orlison List*

- 1 world
- 17 dark
- 19 depressed
- 20 bowl
- 25 homosexual
- 29 masturbate*
- 32 orgasm
- 35 laugh
- 37 women*
- 40 daughter
- 46 race
- 53 social
- 54 son
- 57 city

Rapaport List

- 23 snake
- 27 mouth
- 30 wife
- 32 fight
- 34 stomach
- 29 masturbation
- 40 dirt
- 43 cockroach
- 51 woman
- 47 gun
- 49 husband
- 50 mud
- 54 money
- 60 hungry

O—Orlison Word List sequence of the stimulus words R—Rapaport Word List sequence of the stimulus words

*Note slight difference in the stimulus words of the O and R Lists.

for the first part require the subject to give a one word reply to each stimulus word. The reaction time and response word are recorded for each of the 60 stimulus words. In addition any misunderstanding of stimulus words is noted and given

again at another place in the list. Rapaport permits reminding the testee to answer more quickly if too slow and to give one word replies if the subject persists in responding with more than one word. Immediately thereafter the second phrase is begun with the directions for the testee to reproduce the previous response words to a second administration of the stimulus word list. A coded record is kept of correct and incorrect reproductions and of fast and slow reaction times. The testee may be reminded of the preference for identical response words if the same words are not being given. It is further suggested that the examiner inquire into apparently misunderstood stimulus words and clarify questionable responses. Immediate inquiry is encouraged in order to capture the subject's thought processes which culminated in the vague and distorted response words. A detailed and extensive scoring analysis is then made to classify the responses with regard to the time and content variables. The association disturbances include

- (a) Blocking—offering no reaction word
- (b) Object naming—naming objects in the examiner's office. This is usually an expression of blocking but sometimes of evasiveness.
- (c) Definitions—a multi word definition of the stimulus word.
- (d) Attempted definitions—subjects inclined to offer definitions sometimes in their haste offer poor ones (*rug— to walk on*).
- (e) Repetitions—of the stimulus word (*breast— breast*).
- (f) Partial repetitions—the stimulus word is included in or part of its constitutes the reaction (*boy friend— boy farm— farmer*).
- (g) Clang associations—only where no sense relationship can be established. Thus *breast— chest* is not considered a clang association while *rian— tan* or *beef— weef* is so considered.
- (h) Phrase completion—the reaction completes a word or phrase of which the stimulus word is part usually the first part. These may vary between two extremes from *table— cloth* and *fire— place* to *taxi— dermatist* *spring— is here* and *city— a large*.

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- (i) Close reaction proper—no significant departure from the stimulus word and relevant only if the stimulus word is kept in mind (*screen—through women—other breast—two*)
- (j) Attributes—an adjectival association modifying the noun stimulus word or naming a component of the object referred to by it (*woman—pretty table—wood*)
- (k) Images—the first and sometimes only reaction to the stimulus word is a visual image spontaneously reported by the subject or elicited by inquiry
- (l) Suspected images—the reaction word, and sometimes a delay in reaction suggests the presence of an image which is not confirmed by the subject
- (m) Self references—such as *son—mine girl friend—I have none*
- (n) Perseveration—(1) repeating the same reaction inappropriately on successive stimulus words (2) repeating the same reaction on most or all stimulus words having some link between them (*father—person boy friend—person mother—person*) (3) reacting to one stimulus-word with a word appropriate to the previous stimulus word (*beef—food then nipple—roast*) (4) reacting to one stimulus-word with a word appropriate to the previous reaction word (*water—spring then suck—autumn*)
- (o) Multi word reactions—excluding multi word definitions which are classified separately (*social—lots of friends*)
- (p) Unrelated reactions—no connection can be established between the stimulus- and reaction words (*boal—turkey*)
- (q) Distant reactions—related to the stimulus word in a far fetched manner (*masturbate—loss dark—hour party—funeral depressed—sex city—policeman breast—frankness man—creation boy friend—strength*)
- (r) Mildly distant reactions—not far fetched but outside the usual run of reactions (*trunk—lock boal movement—jawbone run—dirt laugh—jaw intercourse—faced*)
- (s) Verbal associations such as *suicide—woodside or orgasm—refusal etc.*

- (t) Affective reactions—value judgments, usually adjectives (*mother*—"nice", *bowel movement*—"disgusting")
- (u) Alternatives—more than one reaction (*suck*—"baby or bottle").
- (v) Proper nouns—*boy friend*—"John," or *city*—"Topeka"
- (w) Vulgar reactions—ranging from more acceptable colloquial reactions (*homosexual*—"fairy") to socially altogether unacceptable ones (*intercourse*—"fuck")
- (x) Mishearing the stimulus word—hearing *bold* for *bowel*, or *gladiator* for *radiator*
- (y) Not knowing the stimulus word—either spontaneously admitted by the patient, or established by inquiry into peculiar appearing reactions. Some of these are standard, such as *orgasm*—"organs"

We have also distinguished the following types of *reproduction* disturbance

- (a) False unrelated recall—in any of the following forms
 - (1) great distance between the original reaction and the recall, such as *love*—"life," then "woman", (2) a reversal of the sex implied in the original reaction—mostly on the familial and inter personal words such as *father*, *mother*, *women*, *man*, *son*, *daughter*, (3) a shift in the interpretation of ambiguous words such as *breast*—"shirt"—"woman," *spring*—"flexible"—"water", (4) a reversal of mood, such as *laugh*—"cry"—"smile", (5) abandonment of a multi word reaction, or a definition, or any other type of reaction which is highly singular, (6) abandonment of, or switch to, a vulgar word, such as *bowel movement*—"shit"—"toilet," or *penis*—"man"—"prick"
- (b) False related recall (*chair*—"sit"—"table," *depressed*—"sorrowful"—"despondent")
- (c) No recall
- (d) Delay in recall
- (e) Partial recall (*cut*—"healing"—"to heal")
- (f) Spontaneously corrected false recall (*dog*—"cat"—"animal" Not cat)[†]

This is followed by an analysis of the popular responses and the reactions to 20 "traumatic stimulus words" such as *love*, *father*, *breast*, *bowel movement*, *penis*, *girl friend*,

[†] *Ibid.*, pp. 40-42

vagina, suck, intercourse, etc. Norms are provided for popular responses and for disturbances in reaction time. The authors have also made available the pathological indices for each of the stimulus words and for the types of disturbed associations for schizophrenic, depressed, neurotic, and overideational preschizophrenic subjects as well as the productivity of presumed normal testees. The data spell out diagnostic conclusions, the validity of these findings are anchored to the method of identified psychiatric groups. Reliability and validity as attributes of this test are not presented by the authors.

Rotter (1951) finds some value in the applicability of these procedures for diagnostic differentiation but he is careful to point out that a diagnostic method cannot be superior to the diagnostic nomenclature and diagnostic criteria. Schafer's (1945) discussion of the word association technique is based on the Orbison List and the fundamental rationale that the subject's responses are not accidental occurrences. The essential frame of reference is psychoanalytical with determinism as the core concept. This focuses attention on the nature of the response word in relation to the stimulus word and the *intervening thought processes by which the individual (especially the pathologic person) arrives at the verbal representative of this process*. It is from the inquiry into the deviant or nonpopular reactions that the diagnostic and dynamic inferences are derived. Schafer comments as follows:

aspects of the origin of each idea crowd into consciousness at the same time. Retarded depressive cases indicate their general inertia of thought processes, not only by long reaction times but also by their inability to effect a conceptual shift away from the stimulus word, and by their tendency rather to define it or repeat it, etc. They frequently cannot even break down the stimulus idea into its memory connotations. In contrast schizophrenics' responses frequently abandon concern for conceptual relationships and haphazardly include idiosyncratic memory—or feeling—experiences which are either too close to the stimulus idea or so distant from it that the two may appear altogether unrelated (pp. 225–226).

More recent work with the word association technique has been reported by psychologists interested in the problem of personality and perception. Two schools of thought are prominent, one led by Bruner and Postman (1947, 1948) and the other by Solomon and Howes (1951). Other investigators have rallied around one or the other in attempts to explain the place of perception (including word association as one of the media) in personality dynamics and behavior. The former group, represented by Bruner and Postman, believe that the individual's responsiveness in a situation is a function of personal values, attitudes, and feeling tones which are reflected in the content and reaction time of the responses. They posit defense and sensitization processes as explanatory variables. Solomon and Howes' group attribute differences in responses to the familiarity of words. DeLucia and Stagner (1954) suggest that perhaps both camps are correct in their assumptions since all of these variables are essential ingredients of the intervening thought processes. Supola, Walker, and Kolb (1955) add the thought that the subject's test-taking attitude, a function of the personality, will affect responsiveness. From the point of view of the practicing and busy clinical psychologist, this plethora of variables offers a real stumbling block to the interpretation of response words. In actual practice, therefore, the clinician uses the response words as hints to further probing.

The Homonym Test of Bodily Concern

An interesting modification is Secord's (1953) effort to devise an objectively scored word association test to investigate bodily concern. From a list of 400 homonyms (words pronounced the same but with different meanings) he set up a final series of 75 which have both bodily and nonbodily interpretations. For example, *colon* and *graft* might elicit such bodily responses as *intestine* and *skin*, or nonbodily reactions as *comma* and *politics* (Secord, pp. 480-481). Twenty-five 'neutral' words are interspersed among the 75 bodily/nonbodily homonyms resulting in a list of 100 stimulus words. The neutral words do not enter into the scoring.

Validity and reliability data were based on the scores of 110 subjects and their Rorschach findings. Secord and another psychologist reported acceptable predictions of high or low individual Homonym Test scores for each subject from their Rorschach protocols. Similar success was obtained in relating the test score to performance on a body acceptance scale. Secord considered this a totally reliable and tentatively valid procedure for ascertaining the nature of the individual's bodily concerns. The applicability of the results should be restricted to the selected standardization population—college students.

SENTENCE-COMPLETION TECHNIQUE

This technique may be considered a variation of the word-association procedure. Its advantage lies in the greater specificity of elicited associations made possible by the directionality of the introductory phrase. Thus the stimulus word *man* permits the subject to range over the entire universe of conscious and unconscious ideas related to the concept of *man*. The incomplete sentence introduced by the phrase, *The men in my office*, immediately restricts the association process to one place and to a particular group

of men. This has the advantage of specificity in probing, but it also serves to restrict spontaneity and freedom, a factor which may be adjudged a disadvantage by some clinical psychologists. The objectivity of scoring is more difficult and probably does not reach the level that is possible when dealing with single response words. This may limit the use of the sentence-completion test (SCT) or may necessitate the construction and validation of a large number of separate or interrelated sets of completion phrases to be used for different purposes.

Emotional Insight Test

The history of this procedure is rather brief. Its first use in personality assessment is ascribed to Tendler (1930) who employed 20 introductory phrases to elicit directed responses as a test for emotional insight. This technique represents a revolt against (1) the nondirectionality of the word association test, (2) the rigidity of the Yes/No responsiveness of the personality questionnaires, and (3) the thought provoking (in contrast to emotionality provoking) discriminations essential to answering multiple choice, cross out, rank-order, or scale evaluation types of tests.

Tendler established the validity of his test by comparing Emotion Insight Test sentence completions with biographical data and with the choices made by the subjects on the Woodworth Personal Data Inventory. He considered the comparisons quantitatively and qualitatively satisfactory. Sacks and Levy (1950) criticized this study on methodological and theoretical grounds as being weak. But they did agree with his general conclusion (Tendler, 1930, p. 136): '*Clinically the instrument has been found to be of value as a device for eliciting attitudes, trends, and significant clues to be followed up by further questioning. This is the chord that runs through the various sentence completion tests in this section.*'

Following Tendler's study, several investigators have published data based on their own respective series of sentence

completions (Cameron, 1938; Lorge and Thorndike, 1941) in an effort to study the effectiveness of this procedure as a medium for gaining insight into the thought processes of disturbed persons (Cameron) and into personality differences (Lorge and Thorndike). Not all reports are favorable to the sentence completion technique. The more recent tests are those by Stein (1947), Rohde (1957), Forer (1950), Rotter (1950), and Holsopple and Miale (1954).

The VA Sentence-Completion Test

For want of a better name this set of incomplete sentences will be called the VA-SCT. Originated by Murray and MacKinnon (Stein, 1947) for the Office of Strategic Services, it has been modified for use by the clinical psychologists in the Veterans Administration. Some of the partial sentences are (pp. 18-52):

of the logic supporting the interpretation of this completion test. Stein emphasizes the clinician's interpretive skill. No validity or reliability data are offered, but clinical cases are cited as evidence of the supplementary usefulness of this procedure.

As an aid to making inferences regarding the testee, the partial sentences have been distributed among 10 areas to which each stem contributes relevant material.

- 1 Attitude of the subject to his family unit and to each of the parents
 - 25 Bud's family
 - 72 His mother
- 2 The influence of past experiences
 - 19 As a child he
- 3 The primary drives (needs and press)
 - 20 I try hard
- 4 The subject's feelings and the situations arousing them
 - 62 My greatest worry is
- 5 The testee's goals
 - 2 Mike's fondest ambition
- 6 The ideas which have value for the subject and for which he is willing to work
 - 5 Mike's fondest ambition
 - 100 My goals
- 7 The effects of failure and frustration on aspirational and energy levels
 - 3 When Frank saw his boss coming he
- 8 The testee's general outlook on life
 - 11 John thought that his future
- 9 The subject's attitudes and reactions to other persons
 - 35 The men under me (subordinates)
 - 53 Dave felt that the men over him (superiors)
- 10 Subject's estimate of how others feel toward him
 - 10 What they liked about him most was

The clinician surveys each completed item in terms of the area to which it contributes. This results in a running story of the subject's expressed attitudes, feelings, and reactions to the closely related ideas pertinent to the particular area. (A sentence may contribute to more than one area.)

The final product is an unfolding of ideas with regard to the individual's goals, aspirations, reactions to family, etc., that reveal the subject's personality dynamics. This test is the least objective of those discussed in this section of the chapter. The interpretation may be characterized as "free." Except as a clinical tool used in connection with a test battery, there is no literature regarding its validity and reliability.

Rohde Sentence-Completion Test

This is a revision of the Payne SCT (1928) with the final items selected after some preliminary work with ninth graders. The 61 stems in this test are included in a four-page folder with space for the subject to record any significant statement(s).

After the administration, the entire record is surveyed for ". . . general observations regarding attitudes of the subject toward parents, siblings, self, and people in general . . ." (Rohde, 1947, p. 7). Further extensive analysis, beyond the above "free" or general impressionistic interpretation, is made with the help of a detailed chart. This form is divided into the 19 major areas of personality structure and dynamics to be assessed: attitudes, aspirations, achievements, expressed goals, interests, sentiments, personality trait ratios, values, attention, environmental and emotional problems, sex, health, and other needs (thirty needs are listed in the framework of Murray's system), inner states and traits, inner integrates (i.e., ego ideal, narcissism, and superego factors), press, personal and impersonal harms and benefits, and cathection (i.e., the various aspects of life which the testee has invested with strong positive or negative feelings).

The standardization population consisted of 680 ninth grade boys and girls ranging from 13 to 17 years of age. One hundred and eighty protocols were selected to establish teen-age norms. The independent scoring of two judges showed 95 percent agreement, three other judges had 78 percent agreement. Correlated test retest reliability coefficients, after

an eight month interval were 80 and 76 for boys and girls respectively. These were significant correlations according to Rohde. While there were some changes in the individual variables as a whole the consistency from test to retest was good. The validity criteria were the teachers' ratings of the ninth grade children supported by school records. The correlations proved to be fairly high and positive.

As a clinical tool the value of the Rohde SCT is in eliciting hints to areas of personal reactions to the individual's needs, stress, emotional difficulties, etc. as indicated above. In this it differs from other such techniques only to the extent to which the partial sentences direct the testee's train of associations. It is a rather detailed and time-consuming test to complete in the manner suggested by Rohde. The reliability data seem to be based on insufficient sampling. The theoretical formulations include the concepts of personology and psychoanalytic psychology. The *Manual* has a wide variety of normative data on the more significant variables along with a detailed discussion and interpretation of the protocols of four clinic cases. This test should be used with teenagers in view of the normative data.

Forer Structured Sentence Completion Test

This is the second of the more recent series of incomplete sentences which calls for a formal approach to the scoring and interpretation of the protocol. Forer (1950, pp. 15-16) points out that global interpretations from the sentence completion tend to be less reliable statistically than those based upon single item analysis. A second important consideration in the development of this test is the introduction of a high degree of structure for the purpose of forcing the subject to show his hand in those areas of interpersonal behavior in which a diagnostic therapeutic team is apt to be interested. (p. 17) Thus the relevancy of the completions and omissions takes on greater import for idiodynamic interpretation. An examination of the items reveals much more structure for the Forer SCT than in the VA SCT.

if structure is equated with more words in the introductory phrases

Two forms are in use one each for men and women. The 100 stems are somewhat the same for both sexes, with the exception of the pronouns and the position of several items (p. 18)

(M) 9 His father always

(F) 9 Her father always

The instructions are the usual ones for this type of test. The completions are subjected in an intensive analysis in accordance with the check list shown in Figure 33

It should be noted that the arrangement of this check list brings together the many variables dispersed throughout the 100 stems. For example, under A Interpersonal Figures (see Figure 33) the sentence-completion items are grouped according to the kinds of persons with whom an individual usually interacts in the course of everyday living: father (sentences 9, 16, 33, 70, 88 and 96), mother, males, females, people and authority, each with its relevant sentence-completion items listed for ready reference. For each item the subject's revealed attitudes is checked off in keeping with the definitions given by Forer (1950, pp. 25-28)

In its present state no reliability and validity data are available. This is recognized by Forer, especially the possibility that the high degree of structure could result in sufficient objectivity of the completion phrases so as to yield meaningful norms. This does not preclude, as Forer stresses, the free interpretation of the sentence-completion protocol.

Rotter Incomplete Sentences Blank (ISB)

Like Fessel and Leeds (1955) modernization of the Kent-Rosinoff Word List with college students, Rotter and Raskin (1950) devised a sentence-completion test for use with a similar population. In addition, the authors suggested changes in four stems to convert the ISB College Form into

		Attitude Toward																Characteristics of										
A. Inter-personal Figures		Unclear	Denial	Omission	Acceptance	Anxiety	Avoidance	Compliance	Dependency	Fear	Guilt	Hostility	Insecurity	Love	Passivity	Rejection	Security	Accepting	Capable	Demanding	Distant	Dominant	Hostile	Ineffective	Protecting	Rejecting	Undependable	Summary
Father	9																											
	16																											
	33																											
	70																											
	68																											
	96																											
Mother	20																											
	33																											
	60																											
	76																											
	94																											
	99																											
Males	10																											
	13																											
	30																											
	50																											
	59																											
	95																											
Females	21																											
	26																											
	39																											
	62																											
	71																											
	81																											
People	13																											
	38																											
	49																											
	66																											
	84																											
	93																											
Authority	23																											
	36																											
	73																											
	77																											
	91																											

FIGURE 33. Forer Structured Sentence Completion Test Check List.
 (Source: B. R. Forer, A structured sentence completion test, *J. Proj. Tech.*, 1950, 14:15-30, pp 22-23)

R. Domestic Drives	Summary														
	Un- leal	Denial	Om- nion	Ach- evement	A- by	A- on	Depen- den- cy	Dom- nan- ce	Econ- om- ic	Escape	Happi- ness	Hea- th	Inde- pend- ence	In- tel- lect	Sex
2															
7															
20															
37															
5															
24															
43															
58															
C. Concepts of One	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
14															
5															
75															
84															
85															
Aggression	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
47															
50															
73															
82															
Anxiety	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
47															
50															
73															
82															
Depression	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
47															
50															
73															
82															
Failure Frustration	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
47															
50															
73															
82															
Goal	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
	Un- leal	Denial	Om- nion	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression	Agg- ression
8															
47															
50															
73															
82															

Form 33 (continued) - For Structured Sentence-Completion
 Test Check List (Source: B. R. Fester, A structured sentence com-
 pletion test / J. L. Fester, 1950, pp. 22-25)

D Reactions To:		Unclear	Denial	Omission	Acceptance	Aggression	Avoidance	Anxiety	Dependency	Depression	Failure	Fear	Guilt	Hostility	Intellectualize	Passivity	Pleasure	Rejection	Resisting	Somatization	Success	Summary
Aggression	22																					
	42																					
	51																					
	72																					
	80																					
Rejection	3																					
	14																					
	46																					
	82																					
	90																					
Failure	3																					
	23																					
	41																					
	48																					
	62																					
Responsive- ness	1																					
	31																					
	62																					
	68																					
	85																					
Sexual Stimuli	16																					
	28																					
	40																					
	52																					
	61																					
Love and Marriage	11																					
	32																					
	58																					
	78																					
	92																					

E. Moods _____ Hostility _____ Aggression _____

F. Aggression Intrapunitive _____ Denial _____

G. Affective Level (No. of affectively toned responses) _____

FIGURE 33 (continued). Forer Structured Sentence Completion Test Check List. (Source: B. R. Forer, A structured sentence completion test, *J. Proj. Tech.*, 1950, 14 15-30, pp. 22-23)

the ISB Adult Form (for nonschool adults), and six changes to convert it to the ISB High School Form."

The 10 items in the ISB are administered on a blank with instructions for the subject to express his "real feelings." The phrases are short (p. 5)

- 1 I like
- 11 A mother
- 10 Most girls

This series is the end product of revisions of previously published incomplete sentence tests. The authors do not consider this test to be a diagnostic procedure or a technique for unfolding the dynamics of the total personality. Rather they look upon it as a means of eliciting relevant data to help the clinician in ensuing interviews with the client.

Most of the stems are in the first person, viz., "I," "My," etc., in view of Sacks' (1919) finding that first person pronouns *tended* to be more effective in eliciting attitudes in several personal areas. Split half reliability coefficients of .81 for 121 male college students and .83 for 71 female students are reported.¹⁹ Interscorer reliability for two raters is .91 and .96 for male and female records, respectively. The authors report satisfactory validity evidence in the ability of the final scores to differentiate between adjusted and maladjusted students above and below a specific critical score. For example, by using 135 as the cutoff point, between 75 and 80 percent of the maladjusted group of males are correctly identified. The correlations between adjustment classification and ISB scores are .50 and .62 for women and men students, respectively. In view of the weaknesses inherent in instructor judgments of students' adjustment, the authors consider these correlations to be acceptable validity coefficients. A subsequent reliability and validity study by Churchill and Crundall (1955) with college students and

noncollege female adults yielded (1) interscorer reliabilities of 90 and above (2) test retest reliabilities ranging from 38 to 54 with the higher reliability coefficients attributable to the noncollege women (indicating less variability and greater stability for this group) (3) comparable normative data (or scores) for this college group as was obtained by Rotter and Rafferty with their college population and (4) somewhat similar screening results using test scores and the need for counseling as the criteria

The ISB is easily and quickly completed on a single sheet. With the examples in the *Manual* (Rotter and Rafferty 1950 pp 14-18 55 86) serving as guides each response is scored as

1 *Omission response*—this usually has no quantitative value

2 *Conflict response*—according to its severity a conflict response ranges in value from least to most 4 5 or 6 points (i.e. the higher the point value the more conflictual the response)

3 *Positive response*—the extent to which the response discloses adjustment from good to best is assigned a numerical weight of 2 1 or 0 (i.e. the better the adjustment the lower the point score)

4 *Neutral response*—all of these are scored 3 points

According to this system of numerical weights the higher the score the greater the maladjustment tenor of the sentence completions. In addition to this quasiobjective mode of analyzing the protocol the illustrated interpretations of six clinic cases in the *Manual* disclose a qualitatively free idiodynamic elaboration of the responses mirroring the familial social sexual and general attitudes as well as the character traits of the testee

Holsopple Miale Sentence Completion Test

This is the latest in the series of sentence-completion tests to appear in the literature of clinical diagnostic and personality assessment tools. The development of still another projective test is justified by Holsopple and Miale (1954) on

the grounds that less training is required for competence with this technique and that this particular set of sentence completion stems goes beyond eliciting conscious material from the subject. The 73 stems they claim, have met several criteria to enhance their usefulness for eliciting relatively impersonal responses so that the testee would feel freer to express his real thoughts, attitudes and feelings with a minimum of personal threat and anxiety.

In regard to interpretation the authors state their belief that in its present form they cannot recommend an *objective* analysis of the response phrases. They prefer a sentence by sentence scrutiny and synthesis of these phrases into a global impression of the entire protocol. (This has been labeled free interpretation by this author.)

The present list of opening stems came from many sources and the final 73 resulted from a survey of over 1,700 records. Illustrative stems are (Holsopple and Miale, 1954, pp. 17-11)

- 1 Children are usually certain that.
- 12 Fathers should learn that.
- 13 The most pleasant dreams
- 37 A masculine woman should
- 73 I envy like these

The *Manual* contains 'characteristic completions' for each of the stems along with 13 cases with full sentence-completion protocols and an interpretation for each. Reliability and validity data are lacking. Holsopple and Miale recognize this but emphasize the need for relying on the skill and ethical values of the clinician for the most effective use of the test responses.

Miscellaneous Sentence-Completion Tests

Concurrent with the publication of the four sentence-completion tests discussed above the following have appeared in the psychological literature:

STANDARD SENTENCE COMPLETION TEST (SSCT) This test

consists of 60 items in the first person. Interpretation is a function of the tester's clinical judgment of the degree of disturbance shown in the subject's attitudes toward mother, father, family unit, women, heterosexual relationships, friends and acquaintances, superiors, subordinates, equals, fears, guilt feelings, own abilities, the past, the future, and goals. The items contributing to each of these 15 variables are listed in the SSCT Rating Sheet (Sacks and Levy 1950) in the same manner as in the Forer check list. Sacks reports reliability as evidenced in the agreement among psychologists' ratings. Agreement between the clinical findings by psychiatrists and the interpretation of the SSCT protocols by psychologists is also reported as high. These reliability and validity procedures are weak in that too much weight is given to the unmeasurable variable of interpretive skill and the concepts of psychiatric nomenclature.

SHORT FORM SENTENCE PROJECTION TEST Kline (1948) has introduced this test which consists of 10 incomplete stems. Each is assumed to probe in a particular projection area, e.g. 2. Going to parties is usually _____ is assigned the role of probing social adjustment while 4. Many people find it difficult to _____ is presumed to inquire into the testee's inhibitions and facilitations of motivation. Inter-scoring reliability is .86 but no other reliability and validity data are presented. This test might be useful; the author claims it as a brief clinical device but it is in its most unrefined state as described by Kline.

SAM SCT Trites, Holtzman, Templeton and Sells (1953) describe the SAM SCT used in the United States Air Force for predicting pilot training success.

MODIFICATIONS OF THE ASSOCIATION TECHNIQUE

In this section are presented those evaluative procedures built on the fundamental principles of personality projection characteristic of the word association and sentence completion techniques but with modified stimulus material. The following personality tests exploit partial and complete

stories, proverbs, and questions to elicit responses, and they also serve as a means of directing the associations of the individual in the effort to uncover specific personal material. Instead of limiting the subject to a word or phrase, freedom is permitted the breadth and depth of the individual's thought processes by encouraging greater responsiveness. This method is not too far different from the TAT, MAPS, or the DFT in which the testee is asked to tell something about the stimulus picture.

The Madeline Thomas Completion Stories Test (MTT)

Mills (1953) uses a translation of Thomas' (1937) stories in a preliminary study with elementary school children. Two of the 15 MTT stories are (Mills, 1953, pp. 139-140):

1. A boy (or girl) goes to school. During recess he does not play with the other children. He stays all by himself in a corner. Why?
7. It is Sunday. This boy has been taken for a ride with Mother and Father. Upon their return home, Mother is sad. Why?

A rather unstructured administration is suggested. The items are read to the subject and the verbalized responses to the questions are recorded verbatim. The testee is encouraged to produce significant material. There is no formalized mode of dealing with the protocol. Popular or expected themes have been assigned to each story stimulus. For example, story number 1 most usually elicits themes regarding the nature of the testee's social adjustment, aggression, escape, school conduct, and teacher-child relationships. Story number 7 may disclose relevant attitudes and reactions toward parental conflict. Mills further suggests that interpretation should be made by each clinician in accordance with his own theoretical concepts, usually psychoanalytic. Mills' studies seem to be the only publications regarding this technique in this country. For ease of administration and unlimited interpretive permissiveness, this procedure is unequalled.

The MTT technique has been extended upward to the

college level by Mills (1954) Again 15 situations are structured, viz (pp 18-19)

- 1 A student is in college He [or She] writes a letter home
What does he say in the letter?
- 13 Among all the novels and stories he has heard and read,
which one does he like the best of all? ¹¹

The responses, or *thema* are analyzed for revealing meanings in 16 or more life variables On the basis of a limited number of cases, Mills suggests that time may be the most significant differentiating factor in the degree of adjustment Certainly the greatest lack in both of these techniques (story completion for children and college students) is well designed validation studies

Two other varieties of this procedure are Komisar's (1949) Marriage Problem Story Completion Test and Harrower's (1950) Most Unpleasant Concept Test In the former, five marital problem situations, each printed on a card are presented to the subjects for elaboration It is claimed that these are good openers for premarital and marital counseling sessions Harrower's test has elements of both the drawing and the association techniques The testee is asked (p 214) What is the most unpleasant thing that you can think of? or I want you to think of the most unpleasant thing you can imagine Then the testee is told

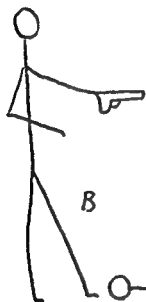
And now I want you to draw it for me This is followed by the subject's description of the drawing and associations to it Figure 34 presents the drawings and the associations of one of Harrower's clients

The interpretive frame of reference is obviously psychoanalytic with symbolism furnishing the basis of dynamic inferences Validity and reliability data are not included

The Insight Test

Another approach to eliciting raw data which could lead to inferences, interpretations, and diagnostic classifications

¹¹ This is similar to the projective technique in which open ended questions are put to the client to permit almost unlimited response



is Sargent's (1953) *Insight Test*. This is a paper and pencil projective technique. The test consists of a set of 15 situations called armatures. In each set there is a conflict situation requiring the testee to resolve or handle it. The subject's replies may be written or given orally. The responses center about the answer to two questions about the armature problem situation: What did he (or she) do and why? and How did he (or she) feel? The appropriate pronoun is used with the form for men or women. There are two alternate forms, four in all, for men and women. The areas probed are conflicts in familial, opposite sex, interpersonal (social and friendship), vocational, religious, and health relations. Sargent details an extensive scoring system to yield quantitative and qualitative personality data for inferences and interpretation. Rather complete case materials and illustrative protocols are presented in the *Manual*.

Normative data are based on psychiatrically diagnosed groups with the emphasis on empirically and clinically derived evidence. Interscorer reliability is acceptable but test-retest reliability for the individual subjects is low. This once again focuses on the problem of this type of internal consistency assessment with psychiatric subjects. With regard to the validity of the test, Sargent stresses that she has been unable to find a satisfactory external criterion with which to correlate the test data. She did find agreement between *Insight Test* data on the one hand and clinical findings, other test results, and differential psychiatric group patterns on the other. As a clinical tool, this test offers some means of gaining revealing material.

The Proverbs Test

Baumgarten (1944, 1952) reports an interesting study using proverbs to measure employee attitudes. This *Sprüche test* or *Proverb Test* consists of 240 proverbs loaded in the direction of labor and social relationships. The testee selects eight correct and eight incorrect proverbs from this list and then indicates why he agrees or disagrees with each. In the

latter phase the individual may express his inner feelings and attitudes regarding work or any other topic selected by the testee. Baumgarten indicates, for example, that selection of "Work makes life sweet" is reflective of a positive attitude or adjustment to work. A disapproval proverb such as "Bitter work, sweet slumber" mirrors a negative work attitude or adjustment. No supporting data for this technique's reliability and validity have been furnished.

Rabin and Broida (1918) followed up this technique. They selected 41 proverbs and administered them to 75 student nurses (normals) and 21 variously diagnosed patients. In both, the subjects selected the 10 "best" proverbs. The patients were required to give reasons for their choices, but the normal group was not required to. The selections of the two groups were compared, and three proverbs showed a 20 percent or higher difference in preference by both groups. This attempt at a differential based on preferred proverbs is extremely tenuous and speculative. However, topically meaningful material is obtained in the inquiry—as seen in the case illustrations of the patients. No reliability and validity are claimed. The authors stress the value of the *content* of the associations with the proverbs.¹²

animal selected (with its socially accepted stereotyped traits, viz, lion for mastery, fox for cleverness, etc) and the verbalized rationalizations

This author has used a projective question by asking clients to indicate whom they considered to be the greatest person who ever lived and why. This usually has resulted in information regarding the individual's personal aspirations, values, and goals. David (1955) describes the Projective Question (PQ) based on somewhat the same principle as Cole's questions, i.e., that social stereotypes are part of the cultural heritage, have meaning for persons (whether valid or not), and therefore may be utilized to bring to light a person's thought content with regard to motivations, feelings, attitudes, and aspirational levels. One question is asked, 'What would you like to be if you were not a human being?' (p. 296). This is followed by an inquiry which should reveal as much as possible about the subject's choice. In an exploratory study David has encountered some problems in handling the answers, but he gives the overall impression that the statistical data justify further research. Possibilities of differentiating among psychiatrically identified groups of subjects are good enough to merit further work with this procedure.

SUMMARY

These techniques appear to be theoretically sound in that the logic of the relationship between a word, a phrase, or a story and its associated situation, event, or person has been accepted as a principle of psychology as the theory of red integration. The difficulty is specifically centered about the methods to be used to validate the assumed connection between the particular stimulus material and its elicited response. The studies reported in this chapter have attempted to handle the issue by comparing the responses of psychiatrically defined groups with normals (or the method of contrasting groups). Success has been varied but not of such stature as to give comfortable assurance that these techniques are

significantly valid. Some of the developers of the more recent tests have not attempted to measure the reliability and validity of their procedures. It would seem that they are more interested in thinking with paper and pen than with testing their tools in the field. All of the test authors stress the clinical contributions of their particular tests. The fact that response material can be used as clues to further probing by the psychologist or psychiatrist is one of the major advantages of these procedures. However, the current trend among projective test constructors and many clinical psychologists seems to be an overemphasis on practicality and deriving personal information with too little regard for the

14. MISCELLANEOUS PROJECTIVE TECHNIQUES

IT WAS INEVITABLE THAT THE REPERTORY OF PROJECTIVE methods should include techniques requiring the testee to do more than verbalize about standard stimuli as in the inkblot and the picture story procedures or respond to partially completed stimulus material as in the drawing completion and association tests. Therefore the development of tests requiring the subject actually to manipulate stimulus objects was not unexpected. In these devices the testee builds a miniature private world, organizes an individualistic design, or engages in an idiosyncratic pattern of activity. These activities are accomplished with a number of objects from which a wide variety of physical situations may be constructed, usually involving ideas of personal and social relationships in a new medium. The fundamental theoretical postulates supporting these tests do not differ from those stated in the preceding six chapters. The difference between the previously discussed techniques and those in this chapter inheres in the nature of the stimuli. This has been characterized by Frank (1948) as the difference between a constitutive or an interpretive task, on the one hand, and a constructive undertaking, on the other. In other words, the procedures described in the earlier chapters of Part III have required that the subject assign meaning to unstructured or amorphous stimulus objects (constitutive) or elaborate on an already structured situation (interpretive). The techniques of this chapter demand that the client organize discrete objects (which individually have definite structure and shape) into

meaningful pattern. The definite objects enable the subject to deal more concretely and realistically with the stimulus figures to build an allusive situation, especially if he is unable to deal with phenomena on an abstract level (as would be the case, for example, in the inkblot procedure). Thus, the techniques in the first section of this chapter are more feasible with some children and adults and with intellectually retarded persons than the constitutive type of test.¹

In the constructive test approach the subject has to organize and build in keeping with a central concept, be it concrete or abstract. In the process of planning and/or actually manipulating the objects the testee draws upon his own resources, i.e., his own perceptions and apperceptive mass to complete the imposed task. The techniques of this type are discussed in the first section.

THE CONSTRUCTIVE PROCEDURES THE WORLD TESTS AND THEIR MODIFICATIONS

From the point of view of chronology Lowenfeld (1939) originated this technique. It has since undergone revisions by Buhler and Kelly (1941), Buhler (1950), and Bolgar and Fischer (1947). Homburger's (1938) Dramatic Production Test is an earlier development.

Lowenfeld World Technique (LWT)

quired in Lowenfeld's version the above are suggested as a minimum for building a set. These cathartic media may be adapted for use with subjects from preschool age and up—depending on the nature of the objects introduced into the situation. Lowenfeld feels rather strongly that this therapeutic procedure *should not* be used as a means for evaluating an individual's personality. This admonition is given despite the recommendation that detailed observational notes of the subject's play activity be kept and that inquiry be made regarding the objects being used. There seems to be a contradiction in her insisting that personality dynamics should not be assessed from the test performance yet requiring close attention to the child's behavior.

Certainly it is sound testing and therapeutic procedure to observe to interpret and to predict in order to decide on the next step. It appears *as though* the facts are being half used to tell a whole story. Perhaps some justification may be seen in Lowenfeld's sincere belief that the present World Test technique yields only superficial aspects of the child's ideation. But if the observational data of the child's play activity have any purpose in the service of therapy beyond mere description it is to give the therapist an idea of progress being made and to provide direction to ensuing therapeutic efforts. This is accomplished in a continuous evaluative process, i.e., the effects of past play activity with the world objects, the changes that have been or are taking place and the predictions in regard to future effects of continued manipulation and ventilation with the world materials.

The following versions of the world technique are grounded in the notion that it is logical to stop at a point in the construction procedure to record the interpretations and inferences of the individual's activities and verbalizations (presumably even in a nontherapy situation). However, Lowenfeld's questioning of the adequacy of the deductions and conclusions regarding personality dynamics and structure based on one testing session is valid in the sense that the greater the sampling of segments of behavior

(repeated world constructions), the more representative will be the ultimate inferences about the person.

The World Test

Buhler and Kelly (1941) and later Buhler (1950) adapted the Lowenfeld World Technique idea and materials to their World Test. This consisted of two sets of objects, one of 160 and the other of 300 items of various kinds.

The impetus for this development is Buhler's interest in Lowenfeld's inferences from her World Technique and a desire to validate and standardize them with experimental and control groups of children. The colored objects, attractive to children and conducive to stimulating play activity, are fairly realistic miniature reproductions of persons, animals, and things seen by children. The subjects are encouraged to play with the toys in any way they desire and to 'make something' with them. The average time for building a world is 30 minutes. The final product is sketched with coded symbols reproducing item placements. In addition, records of the testee's verbalizations and construction activities are made. The analysis of the construction elements and mode of reproducing the world is illustrated in Table 16. Sheet 1 is designed for organizing the variety of objects, while sheet 2 simplifies the analytical process by permitting coded reproduction of the world construction with weights for scoring. The selected objects are divided into significant world signs: aggressive (A), distorted (CDR),

TABLE 16 World Test Scoring Sheet
Scoring Sheet No 1

Name	Age	Birthdate	Ref No
Sex		School	Date
Problem		Occupation	Examiner
	Types of Elements Used	No Used	Types of Elements No Used
1 People ()			Boats ()
Men ()			Trains ()
Women (2 nurses) ()			Buses* ()
Children ()			Ambulances* ()
Police and firemen ()			
Soldiers ()			6 Enclosures ()
			Walls ()
2 Animals, Domestic ()			Fences ()
Horses ()			Hedges ()
Cows ()			
Chickens ()			7 Constructions ()
Pigs ()			Bridges ()
Dogs ()			Tunnels ()
Cats ()			Pavement* ()
3 Animals, Wild ()			8 Nature ()
Lions and tigers ()			Trees ()
Elephants ()			Flowerbeds* ()
Camels ()			Meadows ()
Snakes ()			Lakes,* swimming pools ()
Alligators ()			River ()
Apes and monkeys ()			Rocks* ()
4 Houses ()			9 War Implements ()
Residences ()			Cannon ()
School ()			Tanks ()
Church ()			
Hospital ()			10 Other objects* ()
Jail ()			Sign posts ()
Railway station ()			Gasoline pumps ()
Hangar* ()			Ice cream wagon ()
Fire station* ()			Merry go-round ()
Gas station* ()			Fruit stand ()
Lavatory ()			Milk bottles ()
			Mail box ()
5 Vehicles ()			Tombstones ()
Cars ()			Other ————— ()
Trucks ()			
Fire engines ()			
Airplanes ()			
			TOTAL NUMBER () ()

* Included only in the 300-piece set.

TABLE 16 World Test Scoring Sheet—(Continued)
Scoring Sheet No. 2

Name	Age	Date	Ref No	
Symptoms			Check	Ten- tative Weight
A Signs (Aggressive Worlds)				
1 Soldiers fighting				1 A
2 Animals biting or wild animals, (W A) present				2 A
3 Accidents (fires, crashing, killing, burying, robbery)				3 A
I Signs (Empty Worlds)				
1 Less than 50 elements				1 E
2 Less than 5 types				2 E
3 People omitted				
(a) No people				3 E
(b) Only children				2 E
(c) Only soldiers and police				2 E
CDR Signs (Distorted Worlds)				
1 Closed worlds				
(a) Many small enclosed areas				1 C
(b) Total or nearly total enclosure				2 C
2 Distorted worlds				
(a) Elements in unsuiting places				1 D
(b) Disconnected units				2 D
(c) Chaotic arrangements of items or groups				3 D
3 Ruled worlds				
(a) Schematic arrangements				2 R
(b) Rows of animals or people				3 R
TOTAL NUMBER				
Signs of Symbolic Arrangements)				
Explanations				

world both during and after its construction, and general behavior

The major study with this technique was published by Buhler, Lumry, and Carrol (1951) as a standardization for the World Test. They used normal, problem, and retarded groups of American and European boys and girls ranging from 4 to 16.5 years of age. The world constructions of each subject were surveyed for content, organization, and idio dynamic meaning. Since the testees were from different nations with variations in subcultures and attitudes, the comparisons had to be sufficiently flexible to allow for these factors (see Buhler, 1952). By establishing the signs as the criteria, Buhler *et al.*, found statistically significant differences between normal children, on the one hand, and problem and retarded children, on the other. No such reliable distinction was made between the problem and retarded groups based on the World Test signs. Just as noteworthy are the dynamic interpretations made from the youngsters' descriptions and interpretations of their worlds. Figure 35 presents three cases with their world constructions and interpretations.

Again, statistically significant differences in the presence or absence of signs and qualitative interpretations separated the normal subjects from the group of retarded, withdrawn, and stuttering individuals. Discriminations among the latter subjects could not be made solely on the basis of the signs. These authors felt strongly in favor of applying the knowledge gained in this manner for the ensuing or continuing therapy. The emphasis in this study was on children. The use of this technique with adults was explored by Michael and Buhler (1945) with 227 neurotics. The results were encouraging and warranted further investigation of the feasibility of this procedure as a personality assessment device.

A new version of the World Test has been released by Buhler and Manson (1956). The basic construction concept is retained in this revised test. In place of manipulating actual miniature objects, the subject is asked to build a world on paper. This is accomplished by presenting the

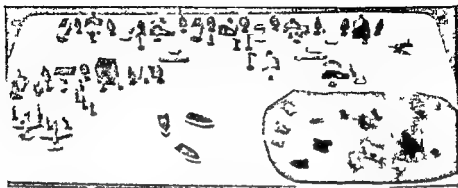


FIGURE 35 Three World Test Constructions and Interpretations (see also pages 327 and 328) (Source G. K. Lumry, Study of World Test characteristics as a basis for discrimination between various clinical categories. In C. Buhler, G. K. Lumry, and H. S. Carroll, *World Test Standardization Studies*, Child Care Monogr., 1931, No. 4, pp. 30, 31, 32)

"Case No. 1 is a seven year old boy of average intelligence. All obtainable evidence seemed to indicate a normal well rounded adjustment. Recorded conversation and fiction play. Making a town" (A car drove up the street, stopped for a policeman, turned a corner and parked. A lady walked up the street. Another lady walked into her house.) "Making an army camp by the town" (The soldiers went out to the airplane. The airplane took off and landed again.) Type of elements—15 number of elements—81 number of symptoms—0 This boy builds a completely organized representation of an army camp in a town. The people go freely about their accustomed business in the town and the soldiers carry out their duties. The pond and the pasture for the animals reflect his interest in his rural surroundings. He does not use the soldiers in a massive action but the army camp is merely present as a part of his pastime environment. This world protocol is an example of a well integrated construction of a normally adjusted child."



FIGURE 35 (Continued) Case No 2 is a nine year old boy of average intelligence. He was described as shy sensitive and reserved. He had difficulty in making contacts with the other children and was very reluctant to enter their play. The teacher reported that he was doing very poorly in school despite his average intelligence. Recorded conversation and fiction play (He looked questioning at the examiner before he would approach the materials. Upon being reassured he played quietly with the objects and occupied himself with arranging and rearranging the fences and animals. He appeared to be somewhat fearful when directed questions were asked. No spontaneous conversation was offered). Making a farm. Types of elements—1 number of elements—72 number of symptoms—3 (No people used less than 5 types of elements closed world). This child completely closes in his construction. He used no people and limited himself to animals trees fences and two houses. No fiction play appeared. A clinical interpretation of the symptoms present suggested that this child was reacting to an emotional situation by a rigid protection and closing off of himself from social contacts. This defense was of a passive nature. The small number of elements might indicate an emotional anxiety or blocking which was interfering with intellectual efficiency.

testee with twelve small drawings (each one printed on gummed paper), a symbol list depicting schematic drawings to represent a wide variety of objects and persons in his everyday world, and a sheet of paper 18 by 24 inches. The subject may use any combination of the original drawings and symbols to create an entirely idiodynamic world on the sheet of paper. He may paste one or more of the gummed original drawings on the sheet of paper, connect them by roads, lakes, mountains, or any other way, between the gummed original pictures (if more than one is used) the testee is encouraged to draw in any figures (human and/or objects) to make a meaningful and integrated world. After building the world the examiner requests the testee to label it and then to write a story about it. This technique is feasible with children and adults and may be administered individually and with groups.

The subject's constructions are analyzed with the help of an eight page *Protocol Booklet* (Buhler and Manson, 1956) which has space for objective recording of (1) clinical observations, (2) the sequences in building the various parts of the paper and pencil world with particular reference to the frequency and placement of the different human and nonhuman figures, (3) the drawings themselves, and (4) the tester's analysis and interpretation of each world drawing. The *Manual* has 12 world drawings with a detailed interpretation for each. The technique has been under continued experimental scrutiny to enhance its value as an assessment procedure and as a means of ascertaining a person's reactions to his environment, the people and objects in it, essential motives and attitudes, and sources of normal and pathological living.

The initial investigation was carried on with 91 adults and 22 children of both sexes and ranging in age from 6 to 85 years. These subjects were classified into six psychiatric groups: adequately adjusted, neurotic, character disordered, borderline and psychotic, and brain damaged persons. Grossly normative data was set up on the basis of these subjects' world drawings in terms of theme frequencies, use of symbols,

and the nature and content of the different worlds drawn by the testees. In addition qualitative characterizations for the developmental and total features of the worlds by each of the six psychiatrically identified groups were described.

While no statistics are offered as validity and reliability evidence, there are sufficient discriminating aspects to merit continued research with this instrument. Buhler and Manson give 25 suggestions for further study in order to approach the answers to many as yet unanswered methodological, theoretical, and interpretive problems.

Bolgar Fischer World Test

The interest in applying world-construction procedures to adults was the central notion of Bolgar and Fischer (1947) in their adaptation of the World Test. Moreover, these clinicians focused on individual patterns of coping with life rather than on diagnosis. They felt that clinical classification stemmed from these idiodynamic interpretations as the marginal background with the behavioral descriptions and inferences in the focal position. They called their test the Little World.

This test has 232 pieces distributed among 15 categories of miniature reproductions of everyday objects, persons, and animals in attractive colors. In a pilot study they administered the test to 100 presumed normal men and women. The constructions of each subject were scored for

1 *Contents*, i.e., the actual idiomatic meaning(s) which the subject is investing in his Little World and which are the end result of a determining motivating process,

5 *Behavior*, i.e., the willingness, work method, speed, and certainty" (p. 122) with which the subject builds the Little World, and

6 *Verbalizations*, which are recorded and utilized as part of the total interpretation although they are not an essential requirement in this procedure

Norms were established in this study for nonpsychiatrically involved adults. Bolgar and Fischer reported high correlations between test signs and biographic excerpts. High validity was claimed for this technique with adults. In a later investigation, Fischer (1950) reported her findings with psychotic, organic, neurotic, intellectually superior, and presumably intellectually low average groups of subjects.² There were sufficient variations in the scorable elements of their Little World constructions to indicate significant differential trends between the normal and the clinical groups. The poorly adjusted yielded empty, overcontrolled or under controlled, socially imbalanced, and low energy level final products. Actual reliability and validity data were not reported except that validity might be inferred from the differences between psychiatrically identified groups of testees. Morris (1951) expressed the opinion that the World Test method of personality evaluation had the twofold advantage of eliciting thought content like the TAT and yielding personality dynamics similar to the Rorschach Ink blot Test.

Dramatic Productions Test

This version of the world construction technique was devised by Homburger (1938), a child analyst. In order to probe the imagination of youngsters Homburger made

² In her paper Fischer (1950) does not give an impression that warrants the assumption that the last two groups consist of well adjusted persons.

frame of reference in which a subject responds to a stimulus in terms of his own perceptions and therefore his response (mosaic construction in this instance) is expressive of his own personality. Psychoanalytic conceptualizations, according to the originator of the Mosaic Test, do not enter significantly into the inferences and interpretations. The personality structure (not the dynamics) of the testee is interpreted directly from the formal aspects of the mosaic.

The LMT may be used with subjects of all ages, since particular skills and formal learning are not essential. The original set consists of 456 plastic pieces in five shapes (square, right angle, equilateral, and scalene triangles and diamond) in black, white, red, blue, green, and yellow colors. The last four colors are related to the ruby, sapphire, emerald, and topaz of Lowenfeld's models. The plastics are packed in a tray case, 12 $\frac{3}{8}$ by 10 $\frac{1}{4}$ inches, which serves as the foundation for the mosaic. The bottom of the tray is covered with a sheet of white paper cut to size and upon which the mosaic is made. The subject is instructed to 'do something' with the pieces. Complete freedom of construction with as many or as few pieces as desired is emphasized. The pieces are placed in the box in a predetermined arrangement of the colors and shapes. When the subject is finished, the pieces are traced on the white sheet and the color of each is indicated.³ A Record Form devised by Lowenfeld (1951) is an attempt to give some objectivity and standardization to the analysis of the mosaics. It consists of a series of questions about the production of the testee with space for checking appropriate answer descriptions for 22 major aspects of the mosaic. In the final analysis, however, it is the overall impression that yields a diagnostic interpretation of the mosaic put together by the testee. In order to assist the tester to understand the constructions of many kinds of subjects, Lowenfeld (1954) reproduced in full colors 144 mosaics as guides. These are discussed in detail in the *Manual* as a means of imparting to the tester con-

³ Diamond and Schmale (1944) used color photography. Colored shapes on gummed paper pieces would also do.

crete examples of the types of constructions found: (1) in the development of children; (2) in the study of mental deficiency; (3) in the productions of normals, neurotics, organics, affective and schizophrenic psychotics, and unclassified incipient and chronic psychotics; and (4) in cultural differentiations. Lowenfeld does not present reliability and validity data. Validity is implied from the life history information accompanying the mosaic interpretations. Although others have reported reliability and validity statistics, Lowenfeld still persists in the belief that the study of the mosaic in the American culture is not ready for objective scoring procedures.

Other students of this technique have evolved not only differences in stimulus materials but also modes of dealing with the final products. Flum (1951-1952) has been able to report a high reliability in the reexamination of 19 subjects. Wertham (1950) uses aluminum pieces in six shapes and six colors, totaling 262 items held in a tray 16 by 10 inches. The subjects associate to the final product under the stimulation of leading questions. He agrees with Lowenfeld that this technique does not disclose personality dynamics primarily but is limited to diagnostic determinations. Wertham's analysis of mosaic characteristics includes 25 features on the basis of which interpretations are made. Again, the category assignments stem from empirically observed general patterns reflecting disease processes at work, which, in turn, are mirrored in the final mosaic production.

Diamond and Schmale (1953) constructed the problems

(1952), in a general review of this technique, cited significant reliability as did Flum (1951-1952). With regard to the validity of the test, McCulloch and Girdner (1949) were able to demonstrate a qualitative relationship between mosaic construction and intellectual level. This could not be translated into a statistical coefficient because of the lack of a quantifiable scoring system.

Other investigators were able to report favorable validity data (M. Kerr, 1939, Wideman, 1955). Wideman scored 39 features in the designs of 245 subjects (107 normals, 70 schizophrenics, 48 neurotics, and 20 organics). Consistency in scoring the mosaic characteristics was acceptably high. Thirty-two of the design elements differentiated significantly between the normal and pathological groups. Within the pathological groups, however, differences were not as clear as clinicians would desire for their comfortable use of this technique to discriminate among the clinical groups. Colm (1948, pp. 232-233), in connection with her work with children, stated:

The Mosaic Test is of greatest value in individual work rather than in group testing situations, because observing the designs from their earliest inceptions, and watching their development step by step with each new addition and change that is made, are important parts of the test. This observation of a slowly growing and changing design gives valuable information in regard to the child's conflicts, his own feelings about himself and how he deals with his problems. In addition to the indications furnished by the designs themselves, observation of the child's initial approach to the test task, as well as of his attitude toward his finished work, provides important psychological clues. Only through the analysis of both the actual growth of the design and the child's approach to it, can the full diagnostic possibilities of this test be realized.

The combination of the Mosaic and the Rorschach with an intelligence test seems to offer a safe basis for differential diagnosis of the child's functioning, and his general capacity, and in some cases of the organic implications involved. The Mosaic Test is of special value for the child for the same reason that play therapy is such an adequate and satisfactory means of communi-

cation. The test projects into one pattern the emotional and intellectual structure and disturbances of the child whose reasoning and emotions are not yet as separate and clearly controlled as those of the adults.

As a final word, the experiences of those who have used this technique indicate that this procedure has excellent clinical potential. Refinement in scoring would evolve from continued research with normal and clinical subjects and with individuals in diagnostic and therapeutic sessions.

felt strip represents a fixed and unchanging environment the numbers are symbolic of passing time (as the subject places objects from spaces 1 to 15) and the plastic items represent the expressive action of the testee. He has drawn up a tentative list of popular responses for the various objects

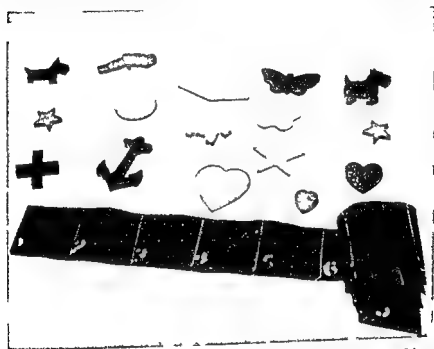


FIGURE 36 The Kahn Test of Symbol Arrangement (Source Major T. C. Kahn *Test of Symbol Arrangement* West Los Angeles Calif. Western Psychological Services 1919-1953 and Louisville Ky. Psychological Test Specialists 1956)

and another list of Common Unconscious Symbolization of Objects (Kahn 1955a pp 131-135). For example the anchor symbolizes Escape or the opposite of escape—being anchored or tied down. It also represents that which weighs one down. It can symbolize adventure, running away, travel escape security something to hold on to faith.

The weight of interpretation is placed on the skill of the clinician with a note of caution that deeper meanings

must be obtained individually from the subject. Kahn warns against work book interpretation of symbols, yet this is the very thing that will eventuate if neophyte, too busy, or poorly trained clinical psychologists seize upon this easy sign approach to inscrutable meanings—despite Kahn's earnest warning that this should not be done. Furthermore, the idiodynamic nature of the individual's performance may preclude the generalizations of these symbolisms. As with most projective procedures, a great deal of personal material comes to the surface for inferential exploitation. To know the limits of making inferences seems to be the major key to the appropriate use of this data.

KISA is being used in England, on the continent, and in Australia. More recent work has been reported by Fils (1951), Esterly (1951), and Brodsky (1952) with psychiatric groups. Its earliest applications disclose responses which differentiate significantly between diagnosed organic psychotics and nonorganic psychotics—evidence for validity by the method of psychiatrically defined groups. Test-retest reliability and interscorer reliability are 95 and 97 respectively. Kahn cites Fils' paper (1951) in which 56 responses discriminate among organic psychotics, schizophrenics, and nonpsychotics. In a recent report, Kahn (1952b) cross validated the value of this test for separating subjects with brain damages from normal subjects. Kahn¹ has indicated that every effort is being made to bring the

PLAY TECHNIQUES

It is but one step from the discussion of the constructive tests to an elaboration of the play techniques as a mode of personality evaluation. As a matter of actual fact, the world construction procedure may be considered as one form of the play approach to personality assessment. In the past the play technique has been limited to children, with an occasional study with adults. J. E. Bell (1948) reviews the theories of child play and suggests that, insofar as the child is concerned, a study of the theory of the development of play activities is a concomitant of the evolution of personality dynamics. He cites many of the play theories ranging in viewpoints from popular conceptions of play as one expression of the need to drain off excess energy to the somewhat involved explanations of the different psychoanalytic schools. In all of these theories the primary aim seems to be therapeutic, but so closely are therapy and evaluation intertwined that to separate one from the other is purely arbitrary. The clinician derives assessment interpretations from the testee's expressive movements, verbalizations, and symbolic choices of toys. The client gains in release of tension by expressing his thoughts, feelings, and attitudes in an accepting atmosphere.⁵

It would be difficult to assign labels to the great variety of play techniques. Each clinician would justifiably merit a self-named procedure. The equipment and the evaluative methods differ with each person utilizing this technique. Some expose the child to a limited number of toys in order to direct the play activity into a predetermined channel, e.g., giving the child a doll and a toilet to elicit material regarding toilet training attitudes and reactions. Other procedures

⁵ The difference between the use of a play technique for diagnosis or for therapy probably lies in the amount of time and the number of sessions devoted to this activity. In the evaluative process there usually is a limited number of such periods as compared with the number of sessions in a therapeutic program.

are more elaborate in that the children are observed as they play in rooms or in play areas connected with the clinic building. Sometimes large toys are employed or other children are part of the activity design. The latter more closely approaches the real life situation and, therefore, more representative segments of behavior may be observed. The group therapy sessions of various agencies are a form of play activity (Slavson, 1913).

The reliability and validity of the play technique as a diagnostic and personality assessment device cannot be discussed in a meaningful manner if the criteria are quantitative. Certainly test retest reliability is not feasible. Validity is usually indirectly inferred from the relationship of the content and the nature of play behavior and the problems which brought the clients to the practitioner (Colm, 1951, Erikson 1910). D. M. Levy's (1937) work is quite prominent in this field especially his amputation-dolls method of uncovering deep-seated personality dynamics as the child handles these dolls. Attitudes toward father, mother, toilet training and siblings are elicited in this kind of play situation.

acted out Basically puppetry is a group activity The assessment of the individual child however is a matter of observing reactions during the play—extent of participation and the selectivity of sharing in the show i.e. those phases in which he joins and others in which he withdraws from the action As the characters take on personal meanings during the course of the puppet show those situations that threaten to produce or reduce anxiety can become evident to the keen observer The structure and dynamics may be inferred from the manner in which the subject copes with these situations

Psychodrama

The second technique is really puppetry for grown ups using people in place of make believe human figures Psychodrama has its roots in action therapy since it is an expressive method calling for actual motion or movement verbalizing gesturing and other overt manifestations of physiological and psychological needs and press The psychodramatic movement is the development of J L Moreno (1946 F B Moreno 1946) Its origins are in the Viennese *stegreif theater* of 1922 This is a theater of spontaneous acting—a reference to the core of the psychodramatic concept that what takes place on the stage is spontaneous action within a skeleton framework This play acting in a freer expressive climate makes available behavioral descriptions (including verbalizations and actions) that open the way to inferential personality evaluation

The psychodramatic situation may be quite formal with Moreno's three-concentric level stage role assignments director the outline of a script and professional actors Or it may be quite informal taking place on a simple stage or in a room with patients attendants and therapists involved to some extent Actually there are as many variations of the psychodramatic method as there are persons using it as a therapeutic frame of reference The exploitation of this procedure as a diagnostic and an evaluative device has been the contribution of Del Torto and Cornyetz (1944) Certainly

the rationale is simple enough—as the individual meets situations and problems in life he reveals his manner of dealing with them thus exposing to view the drives to behavior. This helps create an idiodynamic picture of the individual and his attitudes. This technique does not lend itself to objective scoring and it cannot yield meaningful norm is especially in a highly structured experimental context. (The greater the degree of control introduced into an experimental design of the projective method, the less the subject gives of himself. Thus it falls short of the purpose of testing—to elicit behavior that will reveal the personality structure and dynamics of the individual.)

subject's report of unadorned and unelaborated dream material⁶

D M Levy (1951) discussing a case in detail, comments on the similarity in contents and types of associations of the patient's dreams and free drawings. The former in general, prove to be richer sources of personal information and subsequent interpretive inferences in the light of psychoanalytic concepts and symbolisms. Not all analytically oriented psychologists and psychiatrists consider dreams in the same light. All are agreed, however, with regard to the role of the unconscious forces at work in dream stuff. To bring these deep seated dynamic forces to the surface for scrutiny and for determining their part in observed behavior is the central problem.

Day (1949) reported an interesting study to ascertain whether self revealing projective material could be obtained from an individual asked to interpret the dreams of others. Stated differently, to what extent did an individual inject his own emotions, attitudes, and experiences in his interpretation of the dreams of others? Ten dreams, in printed form, were presented to adults not trained in psychology with instructions to explain each one. Day compared the dream interpretations with the available case histories of the interpreters. He came to the conclusion that the interpretation of dreams made without a definite person as the referent contained much of the interpreter's own attitudes and experiences. The common personality thread of each interpreter could be followed as a definite pattern in the series of 10 dream interpretations made by each.⁷ To

⁶ It is usual at this point to hear the statement that no matter what the patient reports it is part of the picture of personal needs attitudes feelings press etc. This may be so but the particular issue at stake here is not the person but the technique. Relating dreams intertwined with nondream (albeit associated) material confounds the problem of validity.

⁷ This is the point that Schafer keeps hammering home in his volume *Psychoanalytic Interpretation in Rorschach Testing*—the Rorschach tester has his own needs attitudes and perceptions which he brings with him into the testing situation and the interpretation of the protocol.

The author recalls the psychiatrist who consistently failed to record a

what extent this holds for interpretations made by trained clinicians with a definite dreamer is a matter of speculation. This question must be important, however, or else why do psychoanalytic institutes require their students to undergo didactic analysis?

There is no doubt about the widespread use of dreams as a vehicle for making inferences regarding personality make up. Lay persons, psychologists and psychiatrists do it every day. Of all the projective techniques this one lends itself least to reliability and validity studies.

AUDITORY PROJECTION TESTS

Visual stimulus materials have been the major consideration to this point. Some mention has been made of tactual stimuli in connection with the 3 D VT. A third sense modality for evoking projected material is auditory stimulation. This is known as the Verbal Summator technique (Skinner, 1936), or the Gamophone technique (Shakow and Rosenzweig, 1940).

on the individual (drowsiness, for example) All these stimuli affected the kinds of reports given by the subjects to the contents of the speech samples coming from the Verbal Summator Skinner's report of the responses of one subject in the experiment classified the thema in these verbal responses to the sounds as follows personal affairs, injunctions (do's and don'ts), thema concerning a boat, love, baby, religion, books, clothes, and weather words related to a wide variety of objects and attributes and miscellaneous responses Skinner suggested that clinical significance, in terms of idiomatic meanings, should be explored

This initial work did not fall upon barren soil Trussell (1939) regarded this technique as an extension of the free association procedure into a less restrictive area Using Skinner's Verbal Summator, Trussell worked with 32 psychology students and 32 variously diagnosed psychiatric patients She concluded tentatively that the patient group could be differentiated from the normals on the basis of the number of omitted and meaningless responses and the number of syllables in their responses

The term *Tautophone* was given to this procedure by Shakow and Rosenzweig (1940) In their preliminary study they developed a scoring scheme for dealing with the responses to the speech samples so that each could be classified according to complexity of its structure, similarity to the sample, non-English characteristics, sentence structure, and meaningfulness These referred to the formal structure of the responses The contents were then analyzed for index of suggestibility, contact, human reference, self-reference, subjectivity, and interrogativeness Reaction times and consistency of responses from test to retest were also noted

Auditory Apperception Test

More recently Stone (1950) revised the technique so as to employ specific sounds and dialogue [a modification, in turn, of Luchins' (1948) practice], in order to arouse associations and responses He called this the Auditory Appercep

tion Test On the 10 records in Stone's set these sounds are used as stimuli (Stone 1950 p 350)

- 1 Non verbal human sounds
 - (a) Emotion or personal action by an individual (Shi, human sound individual) *Examples* A person crying laughing, screaming groaning clapping walking singing etc.
 - (b) Music (Shm)
- 2 The dramatic episode (where antecedents and outcomes are not specifically indicated)
 - (a) Simple dialogue (DEd) *Example* You ready Joe
Yeah I'm ready You ready fellah I'm—I'm not
sure Come on lets go! (In the record sets the
DEd's may be used together)
 - (b) Crowd sounds (DEc) *Examples* chattering booing,
babies crying playground sounds etc.
- 3 Animal sounds (Sa) *Examples* growling barking bird
calls, sheep etc
 - 4 Sounds from nature (Sn) *Examples* thunder wind, fire,
etc.
 - 5 Mechanical sounds (Sm) *Examples* pounding sawing,
bells machines etc.

The instructions to the subject are to listen to a series of three sounds and then to write or tell a story woven around these sounds (as in the FAT) to include background present situation and outcome. A record form has been devised to help in the analysis of the theme with regard to subtheme factors characters outcomes etc. Validity and reliability have not been established since the technique is still in its preliminary stages.

Miscellaneous Projective Techniques 347

- 1 Train (leaving station, crowd, depot noises)
- 2 Seagull, seawayish background, conversation between two men
 - A Is that enough ?
 - B Yah
 - A How much is that?
 - B (praise) Well, just about right isn't it?
 - A I think that's just about right
 - B Put that away now
 - A Just about right
 - B Would that cover it better?
 - A Put it away now are you set?
 - B O K, let's go
- 3 Child cry and seagulls soft background
- 4 Clock striking and crowd noises Ya, ya
- 5 Slow drip of water
- 6 Origin and poem (male voice, clearly audible only on italicized words)

*To my years hath destiny denied
 The glory of youth Ah,
 How art thou fled from view,
 Darling companion of my tender age,
 My hope, so sorely mourned!
 Is this the fate that time all men brings?
 Poor wretch the truth once plain
 Thou wert struck down with ease, they lifted hand
 Showing me cold death and a naked tomb
 Afar off grimly stand*
- 7 Cry for help and background noises
- 8 Laughter and man and woman conversing
 - A Where did that damn thing come from?
 - B What thing?
 - A Mother said you can't always get what you want in this world sister
 - B What did you expect?
 - A Where is Dad? Where did Dad go?
- 9 Music and sobs of women (15 sec) and man (15 sec)
- 10 Man and woman arguing (man speaks in anger)

MAN Now what did you do all that for today!
 (Mumbling answer)
 Huh?

(Mumbling answer)

You know what I'm talking about!

(Mumbling answer)

There's no excuse for it.

(Mumbling answer)

You know damn well what I mean!

(Mumbling answer).

You certainly did, and I'm ashamed

(Mumbling answer)

woman Well, I wouldn't talk if I were you!

11 Music and water sounds, ending with rush of water (splash) like fish in water or man drowning).

12 Father scolding child and child crying Why! Why! Why!

13 Footsteps, faster, doors open, close, open, rush of footsteps

14 Baby crying and woman singing softly.

15 Cry of woman and man

16 Sucking sounds (human)

17 Groaning, rubbing, kissing (human)

18 Breaking wood, ripping cloth

19 Drill

20 Humming and whistling (man 'Shut up!') more humming and whistling

21 Train bells (switch engine, loud bang, voices) *

The directions call attention to the sounds and ask the subject to respond immediately to each speech sample or sound in terms of what it means to him or what it 'tells' him. One hundred and forty six records of tubercular and schizophrenic patients, college students, and blind children have been analyzed for response characteristics. Although the authors are convinced that this procedure meets Rapaport's (1945) criteria for a projective test,⁸ they are unwilling to make definitive statements about the adequacy of this technique for making interpretations and predictions. They recognize the limitations in the selection of subjects and the lack of nonblind subjects and a larger sampling of nonmentally

all testees Wilmer and Husni do emphasize the usefulness of this technique for personality assessment of the sight-impaired subject

A dissenting note is voiced by Grings (1942), who used Skinner's procedure and Shakow's indices on three psychiatric populations (schizophrenics, psychoneurotics, and manic-depressives when depressed). He reports that, in general, the Verbal Summator does not differentiate significantly among the three categories of patients, but it furnishes inferential material regarding personality dynamics. Interest in this technique has been whetted by the Stone (1950) and Wilmer and Husni (1953) modifications. Further research will probably establish this procedure as a valuable projective test. Its major contribution is that it makes available an *other sense modality, hearing* for the assessment of the blind.

PSYCHOMETRIC PROJECTIVE TECHNIQUES

Paper and pencil tests of intelligence and personality questionnaires were originally designed to assess current intellectual level and specific personality variables. Their continued use by clinical psychologists led to interpretive explorations not intended by the original test developers.

Projective Use of Intelligence Tests

The Wechsler Bellevue Adult Intelligence Scale (W B AIS) developed by Wechsler (1944) as an individual intelligence test was extended during World War II and in the postwar period into the area of personality evaluation. The development grew out of the widespread clinical use of this test. The rationale should be clear by now—behavior in response to a series of visual and/or verbal stimuli is the result of the individual's perception of these stimuli in terms of his own needs, attitudes, press, feeling tone, past experience, etc. The student will recognize this as the basic hypothesis that supports the interpretive and the inferential use of projective techniques. There is no reason, therefore, to exclude the

highly structured stimuli of the WBAIS subtests from this logical position even though the degree of freedom and spontaneity of responsiveness is restricted. In this frame of reference the characteristics of the testee may be inferred from his responses.

The approach to a dynamic interpretation of personality from the answers to the WBAIS subtest items is to consider the contents of replies as clues to the manner in which the individual is relating to his environment and how he is coping with the problems it presents to him. The characteristic modes of addressing problems and significant deviations are the inferential ingredients the psychologist uses. For example, the patient who responds to the comprehension item in an oververbose, meticulous manner may be resorting to the defense mechanism of intellectualization (i.e., an adaptive cover in which the patient tries to treat all threatening aspects of his environment with a rigidly intellectual approach). This may mirror a press for impressing the tester (seen as the father figure) or it may represent a need to stave off (avoid or suppress) personally threatening material that may come to the surface if the patient is other than rigidly precise in his manner of replying to questions that threatens the ego. In brief, the individual's needs and press are reflected in how the specific questions are dealt with and become manifest in the content and manner of responsiveness.

and marital material so heavily laden with the threat of anxiety for her Rapaport *et al* (1916) championed this use of test data Their ideas have been incorporated into the thinking of most clinical psychologists

The interpretive emphasis is on the functions tapped by the various subtests and the manner in which the testee's responses reflect this For example, the comprehension subtest mirrors the individual's judgment in social situations, i.e., his awareness of social amenities and the expectancies of his social milieu Thus, our young woman whose suppressed awareness of her social, legal, moral, and marital transgressions culminated in her blocking at the topical question is revealing her sensitivity to society's disapproval and to the do's and don'ts of her own system of values It is interesting to note that her final response, or rather lack of it, contains not only her knowledge of the correct answer but her emotional involvement in it Each of the subtests has been surveyed time and again for the respective functions(s) tapped Although there is some overlapping clinical psychologists have reached significant agreement with regard to the interpretation of subtest performances

Another acceptable application of the test responses is to obtain an analysis of the individual's strengths weaknesses modes of handling easy and difficult materials areas of difficulty due to emotional sensitivity as differentiated from lack of information, and general test behavior These furnish the raw material for specific interpretations regarding the nature of the defenses used and when, the extent of intellectual efficiency and potential, and perhaps the reason for inefficiency in intellectual functioning This material affords an operational picture of the functioning personality and may go one step further to permit assigning a diagnostic label This is accomplished by searching among the various groups of psychiatrically and psychologically defined patients (and nonpatient populations) and by matching their behavior and symptoms with those obtained from the testee¹⁰

¹⁰ It is this writer's opinion that clinical psychologists should not be required to assign diagnostic labels to patients Their role on the clinical team

The validity and the reliability of this use of the W BAIS have an imposing number of staunch supporters and critics. To select one or two studies would be foolhardy."

Anderson (1951) suggests for the Revised Stanford Binet Scale (Ferman and Merrill 1937) what Rapaport *et al* and others have done with the W BAIS—a qualitative interpretation of the testee's performance to give insight into some personality dimensions. This is actually a continuation of the notion of sequential testing proposed and used by Wells (1929) in which he grouped together each of the particular items (as, in the W BAIS, giving all digit span items at one time, to be followed by all the vocabulary items, or all of the arithmetic problems, etc). Clinical psychologists followed this lead quite successfully (Harris and Shakow, 1937, and Hutt, 1947). The procedure does not differ from the W BAIS performance analysis. Much less work of this type has been carried on with the Revised Stanford Binet Scale, but the possibilities are there to be explored. One of the reasons for less research into the projective and the inferential advantages inherent in the Revised Stanford Binet Scale may be its predominant use with children in psychoeducational centers rather than in the usual clinical situation.

may be considered as highly restricted sentence completions. The various items can be classified according to some predetermined system of traits or life factors. In this way reactions and attitudes toward particular areas of living may be ascertained. Some tests have this type of classification as part of the normative data. The Bell Adjustment Inventory (1931-1938), for example, codes each question as to whether it applies to (a) home, (b) health, (c) social, (d) emotional, or (e) occupational adjustment. Clark and Allen (1951-1952) have devised an item analysis aid which brings together the items for each of the clinical and validity scales of the MMPI (Hathaway and McKinley, 1943). The California Test of Personality (Thorpe Clark, and Tiegs, 1942-1953) presents the items already organized according to the personality variables tapped by this questionnaire. By reading the items for a given personality variable and the subject's responses thereto, the tester has a 'running' picture of the individual's attitudes, reactions, feeling tones, etc., with regard to this personality attribute. This type of analysis affords the psychologist much more information about the subject than could be derived from a numerical score alone. Such information is useful not only for making personality inferences but also for obtaining valuable leads for further therapeutic planning. The projective approach has not been standardized, since its applications are on an individual basis and it is used by clinical psychologists and psychiatrists who resort to this procedure selectively. It is valuable for the personal data made available in a short time and as a device for depth interviewing. Elias (1951) reports favorable results with this projective use of the replies to paper and pencil personality inventories. Not only does he differentiate between secure and insecure subjects in terms of their responses alone, but he gains insight into areas of difficulty and the individual's self perception. Wertheimer and McKinney (1952) have successfully differentiated between a group of neurotic and control students from their answers to a case history blank. This widens the scope of the projective use of paper and pencil devices beyond formal inventories.

SUMMARY

This chapter has discussed the less widely used projective tests. The World Test techniques are not as well known in this country as abroad, but psychologists are gradually becoming interested in them and are investigating their usefulness as diagnostic, evaluative, and therapeutic tools. The outstanding feature of the word-construction tests is their multiple application as a means for assessing personality and as a therapeutic device. Not only is the subject given an opportunity to say and do what has to be said and done, but the test furnishes the observer with bases for teasing out the reasons for the behavior. The auditory techniques add another sense modality to the evaluation process as well as widen the list of testable persons to include the blind and persons with severely impaired sight who could not be reached with the usual visual stimulus materials. As a therapeutic medium these procedures afford an excellent face-saving and self-saving opportunity for the patient to verbalize what has been repressed or suppressed. This is especially true with the auditory techniques since the patient can rationalize the kind of material produced by indicating that his verbalizations are merely a repetition of what has been heard from the recordings. This tends to make the expression of ego-alien material more acceptable to the subject.

ics of these behavioral segments contribute to building the personality picture of the subject

RÉSUMÉ OF PART III

The projective method is indeed a versatile approach to personality assessment. Review the roll call of some of the more widely used techniques: inkblots, thematic stimuli, drawing procedures, association materials, and the constructive approach. These general categories comprise the projective method, but not all of the specific techniques have been included. The major reason for the omission of some of the tests is that they appear in the literature too rapidly and so cannot be properly evaluated. Most of the techniques discussed in this Part have a sizeable body of published data. A few of these may lay claim to fairly definitive statements regarding their usefulness in clinical situations involving personality evaluation and diagnostic implications.

The main problem facing students of the projective method is to redefine the concepts of validity, reliability, objectivity, and standardization. These four characteristics of a desirable test have been crystallized in the thinking of test critics for too long. Unfortunately, the traditional definitions of these test attributes have placed the projective techniques in an unfavorable light. This is more than a semantic issue. The problem is real and close to psychologists concerned with personality assessment. It must be solved if valid use is to be made of these assessment procedures. Cronbach and Meehl (1955) and Cronbach (1948) have seen the need for exploring new methods of evaluating the efficacy of these new procedures. This is reflected in their recent reports and the publication on tests by the Joint Committee (1954) in which the issues of reliability and validity are met head on with elaborations and additions to the currently accepted definitions. Almost every psychologist concerned with these aspects of projective tests indicates at one point or another

in his evaluation of such protocols or studies involving this method, that appropriate validity and reliability criteria are still the prime stumbling blocks. One certainty is that the projective procedure for personality evaluation will continue to be used despite the lack of agreement with regard to its validity and reliability.²

Perhaps part of the answer may be found in the single-case approach multiplied many times. More appropriate norms could be obtained from this time-consuming accumulation of idiosyncratic data. In the long run, some systematic mode of gathering data will have to be employed. At present, the characteristics of identified and psychiatrically defined groups of subjects are most often the criterion universes with which the features or signs of the projective protocol are compared.

Another aspect of the problem may be solved by the behavioral approach in which diagnosis is not a primary consideration. In this proposal the purpose of testing is to elicit behavior that will disclose the person's defenses, adaptive mechanisms, modes of perceiving, etc. The raw data are the behavioral descriptions from which these personality dynamics are inferred. The advantage of this approach is that no attempt is made to force the total picture into a one word categorical mold, i.e., the diagnosis.

implied in the interpretation of projective protocols furnishes the impetus to increased acceptability of the specific analyses and predictions. Involved in much of this is the important role of psychoanalytic concepts, especially the symbolism as signed to the various features of the subject's productions and verbalizations. Unquestionably there will continue to be arguments pro and con as long as projective techniques are part of the personality evaluation procedure. These are matters of deep concern to the users of these tests. Hertz's (1951) expression of the attitude of the clinician in her discussion of the Rorschach Inkblot Test might well be extended to many projective techniques. Writing of the Rorschach, she states

It is fair to say that research to date provides clinical, experimental, and statistical evidence of sufficient importance to justify favorable regard for the method as a clinical instrument. Despite our limitations in theoretical explanation and in statistical verification, those of us in clinical work know that we have an instrument which works under the critical eye of the clinician. I think it fair to say that the only time it does not work is when it is dissected, distorted, modified, objectified to the point of sterility, and subjected to piece meal and rigid statistical manipulation. Otherwise it works. The task for the Rorschach worker, for the statistician indeed for all who are interested in personality theory and projective methods is to find out why (pp. 331-332)

PART IV

Physical, Chemical, and Physiological Methods

15. PHYSICAL, CHEMICAL, AND PHYSIOLOGICAL METHODS

THE PSYCHOMETRIC AND PROJECTIVE PROCEDURES require the testee to do something verbally and/or manually. The techniques in this chapter take the individual as is and subject him to physical and physiological measurement. Actually then the subject of these evaluative procedures need not respond overtly such as by writing drawing or ranging speaking or acting. The morphological mode makes no demands on the subject beyond submitting him self either directly to a quantitative survey of the body structure or indirectly to be photographed in a standard manner. In the latter method measurements are taken from the picture of the subject's physique. The physiological techniques call for measurement of the activities of internal body organs by chemical analysis (endocrinology) by electronic investigation (electroencephalography) and by mechanical and electrical means (pressure changes and galvanic skin responses as in the basic polygraph). The proponents of these evaluative methods assert that they have been able to identify personality types and personality variables from the records obtained by these procedures.

MORPHOLOGICAL SYSTEMS

Kretschmer's Physique Types and Temperament

There are several morphological schemes that have received attention in recent years. From the viewpoint of his

tory, Kretschmer (1925) is considered to be one of the first men to develop modern biotypology. Although it is not frequently referred to in this country, Kretschmer's somatotypic system still enjoys a moderate degree of popularity and usage in Europe.

This approach was limited to attempts to establish a relationship between the structure of the human organism and varying degrees of schizoid (schizophrenic) and cycloid (manic-depressive) personality make up. The proving media were clinic and hospital groups of schizophrenics and manic-depressives (or schizophrenics and cycloids or circulars). Body measurements, photographs, and drawings, as well as psychiatric evaluation and diagnostic data, were part of the detailed records in this empirical study of somatopsychic relationships. Kretschmer set up the constitutional types and their related temperaments¹ by measuring persons and noting the relationship between physical proportions and psychological traits. These were 'averaged' to yield the various categories of his system. Important aspects of somatotyping are the measurements of bodily proportions, face and skull characteristics, hair (i.e., hair distribution and condition on the surface of the body), and the status of the skin, vasomotor system, and blood vessels.² The entire system is quite complex and requires a great deal of skill for proper typing of subjects. The following is the heart of the Kretschmer contribution.

delicate bones, constricted chest, and lacking in fat in any body portion. There may be some variations in body build but they are within this general picture. The schizoid schizophrenic individual is generally associated with this category. The *schizophrene* (a category label which includes all persons in the schizoid schizophrenic continuum, from the healthy to the extreme pathologically involved individual) is described as being timid, introversively inclined, uncomfortable in making and keeping interpersonal ties, sensitive and reserved, and definitely not the life of the party. Furthermore, he is usually cold because of his defensive indifference and lacking in personal warmth because he is self-centered. The *schizophrene* may be characterized as a dreamer, an egoist, or a hostile person because the above behavioral traits give this impression. Sometimes the term *leptosome* is employed to describe this group.

THE ATHLETIC TYPE The distinguishing aspects of this type are the well-developed musculature and skeletal structure seen in the wide shoulders, large chest, firm tone, and a trunk that tapers from the projecting shoulders to a narrower hipline. The limbs are strong and are moved with grace. This type is associated more often with the schizoid personality than with the circular type. Actually, the athletic occupies a position between the *asthenic* and *pyknic* types. Since the *pyknic* (see below) is related to the cyclothymic temperament, the intermediate athletic type also includes some individuals with the personality attributes of the *pyknic* as well as the *asthenic* types.

THE PYKNIC TYPE This class includes the person best described as soft, plump, well rounded, with a characteristic paunch in later life. The hands are usually wide and soft with short fingers. The overall appearance is one of rounded shoulders slipping down over the chest. The hips are broad as compared with the athlete. In regard to personality attributes, Kretschmer assigns to this category the traits along the cycloid—manic depressive—continuum. Thus, these persons may be described in most instances in terms that are applicable to the affective conditions, i.e., the manic

depressive. For the former (manic) state these are the manifestations: gay, friendly, capable of warm interpersonal ties, responsive to the environment, usually good-natured, energetic, and capable of enjoying himself. The other phase of the cycle, the depressive, is seen in the quiet person who is depressed yet not ill-tempered, slow, somewhat dependent, with feelings of inferiority and anxiety. At no time is there antisocial hostility manifested.

FIVE DYSPLASTIC TYPE. This is not a single generalized class of body build. Rather it consists of a number of body types not classifiable in the other three categories. Kretschmer describes these as rare, surprising, and ugly. There are three dysplastic subtypes whose somatic features borrow and mix well with the physical and other attributes of the asthenic, athletic, and pyknic types. The psychological pictures are equally mixed and even blurred as somatotyping becomes confused in the borderline areas. In a summary chapter, Kretschmer is careful to emphasize the holistic nature of his interpretation of the interrelationship among the physical, glandular, structural, and psychological facets of the total person.

types used. These were factorially established on the basis of 15 variables of physical measurement of women patients diagnosed as neurotic. The eurymorph type was related to conversion (hysterical) symptoms while leptomorphy was linked with anxiety and depressive states. Rees (1950) obtained high reliability for this anthropometric scheme. The validity consisted of the clustering of the body measurement variables around the psychiatrically identified categories.

Hooton, Body Build, and Crime

Within a restricted range of human activity—criminal behavior—there have been many attempts to relate anthropometric data to criminality factors. The history of these efforts dates back to Lombroso and has been revived in one form or other since then. Hooton (1939 a b) a student of criminal anthropology is the latest to offer a systematic assay of the ties between the criminal and his crime from three viewpoints: anthropology, sociology and psychiatry. His study centers about American prisoners.

Four morphological classes were established from 67 body head and face measurements and features. [These measurements and descriptions yielded close agreement (Class A) fair agreement (Class B) wide discrepancy (Class C) and radical differences (Class D) among interraters comparisons.] However, this system was not designed as a morphologic personality assessment technique. (It is included in this book only to counteract the popular notions regarding crime criminals and the stereotyped physical signs of the. They say *variety which help to convict a person prior to trial and presentation of valid evidence*.)

East (1946) stated that he became convinced of the incorrectness of the relationship between physical appearance and criminality because of the following four developments in penal reform: (1) the legal withdrawal of the mentally deficient from the prisons into separate facilities; (2) permitting prisoners to keep their hair fully grown instead of

clipped (4) issuing clothing to prisoners that more nearly approximated civilian apparel, and (5) more humane treatment which brought about a remarkable change in facial expressions. After the reforms the physical appearance of the prisoners was not much different from the distribution of physical features that is seen outside prison walls. He concluded that factors other than body build were the essential ingredients leading to imprisonment.

Sheldon's Somatotypes

The weaknesses of the Kretschmer biotypy were recognized by Sheldon *et al.* (1910) who devised a system to minimize the criticisms of (1) subjectivity in somatotyping by different investigators, (2) wide gaps among the idealized concepts of the four Kretschmer types, and (3) restricting the entire system to a portion of the total pathologic population (the schizophrenic-circular conditions). It was a threefold *continuous* system of morphologic classification which, Sheldon believed, bridged the gaps left by the fourfold *discontinuous* body typology of Kretschmer (1925). Sheldon grossly differentiated the endomorph, the ectomorph, and the mesomorph. He set up three axes and scaled each from 1 to 7 for each of the body type descriptions. The subjects could be designated along all three axes. An individual, for example with a rating of 7-1-1 would be designated as an extreme endomorph. Figure 17 graphically depicts Sheldon's method of assigning somatotype designations in accordance with his measurements.

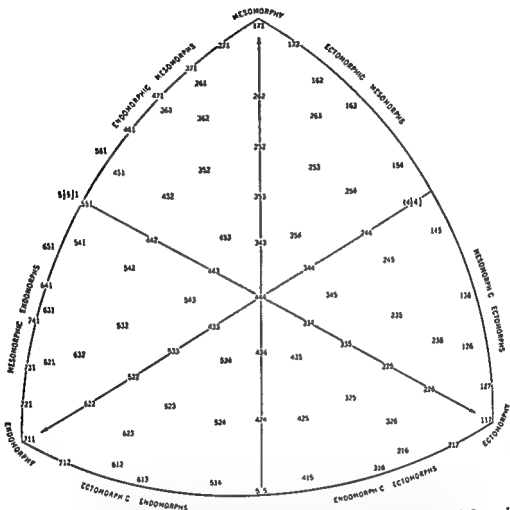


FIGURE 37. A Schematic Two Dimensional Projection of the Theoretical Spatial Relationships Among the Known Somatotypes (Source W H Sheldon, E M. Hartl, and E McDermott, *Varieties of Delinquent Youth*, New York, Harper & Brothers, 1949, Figure 1, p 16)

Endomorphy means relative predominance of soft roundness throughout the various regions of the body. When endomorphy is dominant the digestive viscera are massive and tend relatively to dominate the bodily economy. . . .

Mesomorphy means relative predominance of muscle, bone, and connective tissue. The mesomorphic physique is normally heavy, hard, and rectangular in outline. Bone and muscle are prominent and the skin is made thick by heavy underlying connective tissue. . . .

Ectomorphy means relative predominance of linearity and fragility. In proportion to his mass, the ectomorph has the greatest surface area and hence relatively the greatest sensory exposure to the outside world. Relative to his mass he also has the largest brain and central nervous system. . . .

Marked differences of opinion appear when Sheldon *et al.* introduce what they claim to be psychological correlates of the physical structure. For each of the above somatotypes, Sheldon *et al.* (1910, pp. 8-9) have ". . . an analagous component analysis . . . at the level of motivation and temperament. Basic aspects of temperament have been identified, objectified by the method of tests and interviews, and scaled on 7-point scales. These components we refer to as *viscero-tonia*, *somatotonia*, and *cerebrotonia*." These are occasionally called endotonia, mesotonia, and ectotonia. Sheldon continues:

ality manifestations as detailed by Sheldon for endomorphy viscerotonia mesomorphy somatotonia and ectomorphy cerebrotonia. The gist of the objections of this body type-temperament organization is the subjectivity in assigning a person to a dominant somatotype and in arriving at temperament ratings or descriptions. There is also the implication of causation lurking behind such systems that cannot be established scientifically but which attains ready acceptance by the lay observer. Sheldon has perhaps inadvertently given a clue to a more serious objection to this method of describing personality in his statement that the correlated temperaments have been derived from tests and interviews. The specific difficulty lies in Sheldon's implied acceptance of a list of 60 traits he used to correlate somatotype with temperament. He devised this list on the basis of weekly psychoanalytic interviews over a period of one year with 33 subjects and on rating each one on a 7 point scale of experimental traits. The validity of the tests and interviews may be questioned in the light of (1) current information regarding trait psychology and (2) the subjectivity involved in data derived from psychoanalytic interviews which do not readily lend themselves to objectivity especially when cross validation of this technique is not feasible.

In an early validation study Child and Sheldon (1941) reported the correlations between physical and psychological traits and abilities given in Table 17.

TABLE 17 Correlations Between Somatotypes and Psychological Characteristics

	Endomorphy	Mesomorphy	Ectomorphy
Ascendance submission ^a	05	19	- 17
Masculinity femininity ^b	- 10	12	- 03
Verbal ability ^c	00	01	09
Mathematical ability ^c	- 04	10	08

^a Allport A S Study

^b Terraan Miles M F Test.

^c Scholastic Aptitude Test

Source (Reproduced in modified form from I. L. Child and W. H. Sheldon. The correlation between components of physique and scores on certain psychological tests. *Child and Person* 1941 10:23-34. Tables 1, 2, and 3 pp. 25-28, 31.)

None of the correlations was significant at the 1 percent level. The .19 correlation between A-S and mesomorphy was different from zero at the 3.5 percent level of statistical significance, and the correlation between verbal ability and ectomorphy was reliably different at the 2.2 percent level of confidence. These showed nothing more than trends in the relationship between morphology and personality traits. The morphological types of Sheldon did not correlate with psychological data any better than other body type systems evolved prior to this one. More definite positive results were later reported by Child (1950) in a study on 400 college students. He found more than a trend in the relationship between somatotype and self-ratings on behavior, attitudes, and feelings. The questionnaire was built around Sheldon's 60 traits (20 for each of the three body types) which were considered important for this morphological scheme. The correlations between endomorphy-viscerotonia, mesomorphy-somatotonia, and ectomorphy-cerebrotonia and self-ratings were significant at the 1 percent level of confidence.

A recent study by Page *et al* (1955) considers the relationship between MMPI responses and two dimensions of physical habitus ectomorphy and mesomorphy. The former is described by Sheldon as "inhibited and restrained socially," while the mesomorph is characteristically more outgoing. Using Sheldon's criteria, Page *et al* have isolated subjects for each group and administered the MMPI to them. The findings are directly opposed to the Sheldon hypothesis, i.e., the predicted direction of responsivity on the basis of somatotype theory to the social introversion scale of the MMPI does not show up.

In an evaluation of this assessment procedure, O Kelly and Muckler (1955) comment that since physical structure is a permanent characteristic of the individual some relationship must be present between physique and the person's behavior. They make the plea that lack of complete understanding of these natural phenomena is not sufficient reason for rejecting these ideas. A last comment must be made with regard to Sheldon's *Atlas of Men* in which he presents actual photos of his 88 known somatypes. He weakens the case for his system of personality assessment by the somewhat speculative and highly subjective descriptions of the personality features of the biotypical representatives. These descriptions present an uncontrolled approach to the validation of a system.

The Hand

A morphologically limited application of the somatotypic approach is currently advocated by C Wolff in her book *The Hand in Psychological Diagnosis*. Her work is well known in England and in Europe, in this country very little scientific interest has been shown in this personality evaluation procedure. Wolff's attempts to show a relationship between the structure of the human hand and a variety of personal attributes differ from chiromancy, palmistry, and chiromancy. This difference lies in her systematic investigation of this phenomenon rather than depending on arcane

and esoteric speculation which characterizes the claims of the palm reader and chirographist. Two of the early proponents of this evaluative technique, to whom Wolff pays high tribute, are Carus (1853) and Bell (1852).

The present system is empirically grounded in clinical investigation. Wolff believes that endocrine dysfunction has an effect on body growth and is reflected in the development of the individual's hands. This is congruent with known medical facts. For example, acromegaly, a condition produced by hyperpituitarism, will influence bone growth and shape, the bones and shape of the hand included. Accordingly, Wolff has established a series of "endocrine hands," i.e., diagnoses of glandular dysfunction of the hands (which mirror normal secretion, hyposecretion, or hypersecretion). By systematically noting the specific effects of endocrine imbalance on physical structure and from controlled observations of behavior of the persons, Wolff has established a series of correlates between hand structure and personality. The major claims center about several "general tendencies" of personality which may be derived from hand interpretation: tendencies towards extraversion or introversion; kinetic strength (or vitality); emotional make-up; intelligence; psychomotor habits (postures and gestures); and ego strength or the degree of integration or disintegration. Each of these general tendencies is distinguished by some features of the hand. The hand is classified structurally as *broad*, *narrow*, or *dysplastic*—and functionally as *prehensile* or *tactile*. The ultimate result is six types of hands. Wolff is careful to indicate that these six types represent pure hand types which are the exception rather than the usual occurrence. Most of the hands are structural mixtures.

WOLFF, C. C. C.

THE GLANDS AND PERSONALITY ASSESSMENT

Empedocles of Agrigentum ca 492 B.C. (Sarton 1952) poet philosopher physician and reformer held that physical health was a function of the balance or imbalance of the 4 elements (or qualities humors temperaments) of the body. A contemporary medical colleague Hippocrates of Cos ca 460 B.C., definitely based his system of physiology on the theory of humors.⁴

Kretschmer (1925) incorporated glandular functioning into his morphological system. For example, he reported hyperthyroid development more common to the circular (affective) group than to the asthenic schizophrenes. Less definitive but worthy of mention was the relationship between pituitary conditions and body type.

Berman's Endocrine Man

A modern counterpart of the centuries old attempt to tie the chemistry of the body to personality is represented by Berman's *The Glands Regulating Personality*. This is a system of determinism that has no room for any determiner outside the endocrine system. As such it is a completely rigid revolt against the mechanistic postulates of its contemporary behaviorism—a revolt that has evolved a thoroughly inflexible mechanistic set of postulates which leaves little room for the person whose body contains the endocrine glands. It is undeniable that the secretion of hormones influences various bodily processes which in turn are reflected in some psychological functions, but to assign such great significance to the glands is not entirely in keeping with more acceptable behavior theory. Medical evidence leaves no doubt regarding the interdependence of the endocrine system of the human organism. Endocrinopathy is usually manifested in physical

⁴ Sarton (1952) states that the humoral theory has a history embedded in the centuries prior to the era of Greek medicine.

symptoms and in psychological functioning. Such conditions as cretinism (hypothyroidism) in infants and children and myxedema (also hypothyroidism) in adolescents and adults are easily recognized by common physical stigmata. These are accompanied by characteristic psychological phenomena such as limited intellectual growth or impaired intellectual functioning. This kind of analysis could be made for dysfunction of other glands of the organism, but the evidence is favorable with marked endocrinopathy. There is no evidence that normal fluctuations in the hormonal balance can be related to *types* of personality. In other words, this is a personality assessment technique established on extremes (for which evidence is available), but it is less efficient for the less extreme glandular deviations. Another aspect of the problem that must be considered is Berman's implication that there is a direct causal relationship between endocrine make up and personality make-up; actually this position does not take into account the fact that some of the individual's behavior is a reaction of the person to his endocrine condition. The acromegalic, whose physical appearance has undergone some change, will react differently to his environment (perhaps in response to the reactions of other people to him) than prior to the endocrine disturbance.

Berman postulates adrenal-, pituitary-, thyroid-, thymocentric-, and the sex gland centered or gonado-centered personalities. Much of the evidence cited by Berman is taken from the lives of "historic personages"—Napoleon, Nietzsche, Darwin, Nightingale, and Wilde—a source of validation data that seems to contradict his own postulates. Furthermore, the deductions are based on anecdotal reports rather than on firsthand physical, endocrinological, and psychological examination. There is no opportunity for cross validation or verification by independent observers.

phrases the role of environmental stress in altering physiological function in the effort to maintain homeostasis. Hoskins (1946) had earlier expressed the same views with regard to schizophrenia. As Shock (1944) has indicated it cannot be assumed that observed behavior is the direct resultant of an organic condition since social factors must be part of the evaluation of the total situation. Even in the instances of exaggerated hormonal dysfunction the efforts are not usually directly on psychological functioning. Rather there is a physical (or structural) manifestation which is idiodynamically perceived by the person with subsequent behavioral effects.

PERSONALITY EVALUATION BY ELECTROENCEPHALOGRAPHY

Electrical fluctuations emanating from the brain have been a source of study for the past 75 years. H. Berger (1929) established the correlation between recorded changes in electrical potential of the brain and activity of the brain. Gibbs and Gibbs have published a comprehensive *Atlas Of Electroencephalography* showing pictures of brain waves taken from a wide variety of subjects: normal children from 3 months to 14 years of age; normal adults awake and asleep; questionable and abnormal EEGs (electroencephalographic records) from epileptics; petit mal patients; posttraumatic and psychomotor seizures; brain damaged patients; affective psychotics; schizophrenics; and mental defectives. The technique of obtaining EEGs is not the concern of this book. Figure 38 illustrates an EEG machine. The interpretation of the brain waves is quite technical and involves differentiation along several dimensions, a few of which are

1. *Wave frequency or rhythm*: viz. alpha or regular waves at 10 per second; beta rhythm of 18 to 30 waves per second; gamma waves at 15 to 45 per second; and delta or slower waves at a frequency of 1 to 8 per second. This is measurable with a specially calibrated ruler or map.

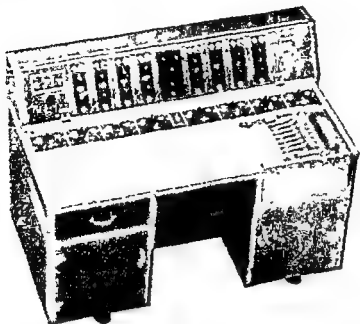


FIGURE 39. Eight Channel Grass Electroencephalograph (Source. By courtesy of Mrs. Ellen R. Grass, Grass Instrument Company, Old Quincy, Mass.)

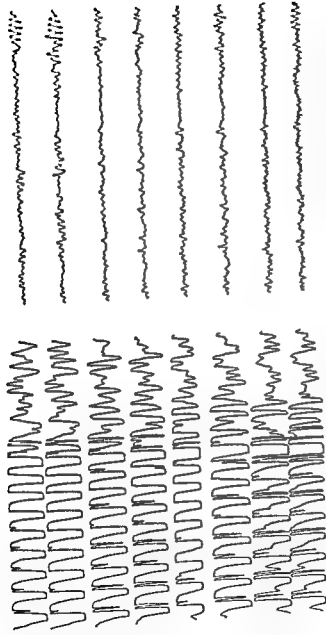


FIGURE 39 Portions of Two EEG Records Taken on an Eight Channel Grass Electroencephalograph (Left) Normal 44 Year Old Male (Right) 6 Year Old Boy Diagnosed as Petit Mal Epilepsy. The spike and dome wave forms in all eight leads. The series of eight brain waves in each record have been taken simultaneously. The areas of the brain recorded by each wave are (from top to bottom) right anterior frontal left anterior frontal right parietofrontal left parietofrontal right parietal left parietal right occipital and left occipital. Leads to the left and right ears served as the ground. (Source By courtesy of Dr. Jess Spierer, University of Miami Guidance Center EEG Laboratory)

Taterka and Katz (1955) attempted to correlate EEG patterns with case history data and psychological test results (Rorschach, Bender Gestalt, Human Figure Drawing, and the Wechsler Intelligence Scale for Children). The two study groups consisted of 195 severely disturbed children and 11 matched control children with respiratory disorders and no marked emotional involvement. They were between 5 and 12 years of age. Table 18 lists the relationship between the discharge diagnosis of the 195 disturbed children (the experimental group) and the type of EEG.

TABLE 18 Discharge Diagnosis and EEG Classification for the Experimental Group

Discharge Diagnosis	No of Cases	% Abnormal EEG's
Schizophrenia	89	78.6
Organic behavior disorder	30	93.4
Primary behavior disorder	45	73.4
Mental defective	17	88.2
Psychopathic personality	3	66.6
Behavior disorder in grand mal epilepsy	9	100.0
Behavior disorder in petit mal epilepsy	2	100.0
TOTAL	195	

SOURCE: J. H. Taterka and J. Katz, Study of correlations between electroencephalographic and psychological patterns in emotionally disturbed children, *Psychosom. Med.*, 1955, 7: 62-72, Table 4, p. 65.

It may be seen that high percentages of abnormal EEG's accompany the various pathological conditions. The encephalopathic states show the highest frequencies of pathologic EEG's. A comparison with the EEG's of the control (nonemotionally disturbed) group discloses 72.7 percent normal records in contrast with only 18.4 percent normal EEG's for the experimental (disturbed) group. Conversely, the experimental group has an overall percentage of 81.6 as compared with 27.3 percent abnormal EEG's for the control subjects. It should be noted from Table 18, however, that the extremely high percentages for the organic-disordered patients in the experimental group unduly influence the overall proportion of pathologic records for this group. Taterka and Katz find no relationship between EEG and specific per-

The Polygraph

A distant cousin of the electroencephalographic technique is the polygraph procedure (See Figure 40), popularly known as the lie detector.^a The present concern is *not* with the use of the polygraph as a lie detector but as a personality assess-

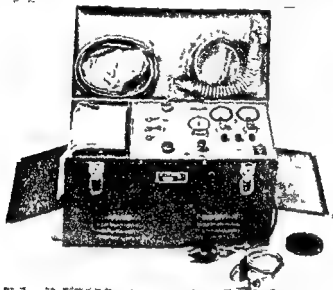


FIGURE 40. Model 312C Keeler Polygraph. (Source By courtesy of Associated Research Inc.)

ment device. What little scientific literature there is on the polygraph technique agrees that the polygraph can detect the presence of an emotionally disturbed state of the organism. Baker and Taylor (1954) definitely establish changes in skin temperature, skin resistance (to electrical conduction), and pulse rate as accompaniments of stress and conditions that provoke emotion.

A somewhat different problem was studied by Herr and

^a The polygraph detects only physiological activity and does not record the truth or the falsity of statements or responses to questions. The quality of "lying" or "not lying" is an inference made by the examiner on the basis of an interpretation of the record.

Kobler (1953) to ascertain psychogalvanometric (differences in electrical conductivity of the skin) indices for discriminating between the reactions of neurotic and normal subjects to emotionally toned stimuli. Several words evoked psychogalvanic responses from neurotics which differentiated them significantly from the normals. The anxiety produced in the neurotic subjects by these words was sufficient to influence skin conductivity. Qualitatively, the major difference between the two groups was the greater amount of blocking on words by the neurotics. Punitl (1951) compared the galvanic reactions of normal and psychotic subjects to the threat of electrical shock. The latter group showed less reaction to the threat of shock than did the normals. The author's interpretation of this phenomenon is that impaired judgment decreases the psychotics' appreciation of the threat of shock. Essentially though this procedure offers little in the way of personality assessment.

PART V

**Life Situation as a Method of
Personality Assessment**

16. LIFE SITUATION ASSESSMENTS

IN THIS CHAPTER WE RETURN TO A DISCUSSION OF assessment procedures that requires the testee's active participation. In the first of these techniques—real, miniature, or simulated life situation—the subject reacts to a given set of circumstances which is either deliberately structured by the examiner or is part of real life, in both, the observer notes the behavior as it unfolds. In the second procedure—biographical or life (case) history method—the material for evaluation consists of past activity of the subject as obtained from the individual, other persons who have the necessary information, and/or essential documents. The latter procedure is actually a recapitulation of an individual's life. The more creditable the information, the greater the representativeness of the obtained behavioral segments and therefore the more valid the personality evaluation. Finally, the place of the individual in the group with its attendant attractions and repulsions, acceptances and rejections, and the impact of the individual on the group and vice versa are discussed in the section on group interactions (pp 413-420).

SITUATIONAL PROCEDURES

This method is as old as the existence of two persons on earth, one to observe and the other to be observed. From the standpoint of psychological testing, an early scientific inquiry into the correlation between disposition and behavior in

ception could be detected without apprising the children of the test purpose. These tests were classified into types of detection methods feasible in the classroom, in homework, in athletic events, and in games. In the classroom situation the students were given a test which appeared to be the same for all. However, unknown to them, these were actually two different forms of the test with the differences being slight, almost imperceptible, but significant. The tests were distributed so that no one student would have another student with the same form either in front, back, or to the side of himself. Deception was indicated by the student giving answers applicable to his neighbor's test form and not to his own.

Honesty in work done at home was evaluated by giving the children a homework test with instructions not to seek any outside help. The following day the children were given an equivalent form of the test. Cheating was implied from the discrepancy in scores favoring the form of the test completed at home. Athletic contests offered a third opportunity for assessing honesty. One such task involved the use of a dynamometer (a device for measuring the strength of the hand grip). The subject was asked to test himself and record the scores for five successive trials. Unknown to the child, the examiner had noted the three best trials made by the child during the preceding demonstration period. Wide differences in the high score recorded by the subject and that noted by the experimenter was the clue to deception. The fourth type of procedure set up another situation usually within the purview of the school child—party games. Thus, the well known game of "Pinning the Tail on the Donkey" was used in a manner such that if the tail were placed accurately, it could be attributed only to deceitful peeping. These ways—self-scoring, improbable achievement, lying and stealing (the last two being additional tests)—were the media for eliciting behavior.¹

¹ For the purpose of completion the general conclusion reached by Hartshorne and May was that honesty (or dishonesty) could not be considered a unified character trait of children. Whether a child attempted to deceive depended on the specific situation and its meaning for the child.

fulness The assessment staff consisted of psychologists, psychiatrists, military experts, medical personnel, and secretarial help As new projects were devised by the appropriate military and civilian agencies, personnel selection was turned over to the OSS assessment staff Among the factors to be considered in assigning people to jobs were motivation for assignment, energy and initiative, effective intelligence, emotional stability, social relations, leadership, and security, i.e., the ability to keep secrets and otherwise protect the purpose of the mission At least four of the necessary requirements for an OSS assignment refer to personality facets—effective intelligence, emotional stability, social relations and leadership The other three requirements, as functions of a total person, also involve attention to the role of personality as influencing performance The OSS experiment was the most extensive of its kind The number of recruits who were studied by the assessment staff totaled 5,391 Testing periods were either one or three days in length The candidates were placed singly or in groups in situations carefully designed to elicit behavior presumed to bear a marked relationship to the personality variables and abilities significant for the successful accomplishment of a particular project In addition to the simulated situations, the OSS recruits completed a detailed personal history form, a sentence-completion test, a rapid projection test (a form of the TAT), the original TAT, a vocabulary test, a health questionnaire and the OWI Test (to ascertain the subject's sensitivity to a culture other than his own) In addition to these formal and lifelike test situations the recruits were under constant surveillance Their behavior in social and recreational situations was noted to ascertain their attitudes, reactions and feelings toward others and toward their chances for success or failure in the OSS program

The OSS experiment is designed to evaluate reaction under stress As such its results cannot be applied to everyday experience since most persons are not under such extreme stress Unfortunately the OSS study does not have sufficient follow up data to justify unequivocal conclusions While the validity may be in doubt there is little question of the prom

use of the situational technique as an assessment procedure. Under more normal conditions (as contrasted with the war situation in which this study was carried on with more at stake than the mere gathering of experimental data), this procedure may yield more fruitful and insightful results.

Since the publication of these two major studies in the feasibility of lifelike testing for personality attributes, industry and university training programs have shown an active interest in this procedure (see Flanagan *et al*, *Situational Performance Tests, A Symposium*, 1951). Flanagan (1949, 1951) is an ardent advocate of this newly explored approach to assessing personnel in industry. The basic concepts embrace those postulated by Weisslogel and Schwarz (1955) and by the OSS Assessment Staff (1948). Advance knowledge of the personality variables to be tested and the situations most likely to elicit behavior in which the variables become manifest is still the foundation for situational test procedures. A more recent large scale assessment program utilizing the life situation is reported by Kelly (1951). This study centered about the effort to create selection criteria for clinical psychologist trainees in the Veterans Administration. Since a great deal of the clinical psychologist's work is in an interpersonal context with the client, other members of the team, family, etc., personality factors are extremely important and must therefore be considered in the total job requirements. Five separate situations are structured

pp. 488-491).² It was found that observation of trainees in their day-long testing activities gave fairly valid estimates of a number of personality traits, but the overall evaluation of this assessment procedure was not an enthusiastic endorsement of it. Kelly made the point that if the cost of such an assessment program proved to be high, it would be well to consider other approaches which might reach the same degree of effectiveness at a lower financial outlay. However, if this procedure elicited data not otherwise obtainable by other test techniques, then it should be considered.

Bass (1951, 1954) reports studies in the evaluation of leadership by a particular type of situation called Leaderless Group Discussion (LGD). In this kind of situation several individuals are brought together to discuss some topic. No leader is designated, and the raters are not part of the discussion, except for their physical presence (Bass, 1954). The behavior of each subject is rated in accordance with a predetermined scheme. By comparing observers' ratings of the leadership qualities of the individuals in the LGD situation with the ratings assigned to the same subjects in individual interview sessions of 15 minutes each, Bass (1951) concludes that there is no superiority of leadership assessment in either one of the two methods. It is possible, however, to consider the interview session as one type of situational test and, in this particular investigation, equivalent to the LGD technique. LGD is becoming more important as a selection device in personnel placement. This is so because of the suitability of the technique for a wide variety of placement problems in which part of the important selection criteria are the behavioral manifestations of personality variables. As with other assessment devices, the issues of reliability and validity are essential. Replicability of lifelike situations is not too easy, but it can be done. The major source of reliability data seems to be interjudge agreement with regard to the scoring and/or interpretation of a given performance or segment of behavior. Bass (1954) cites 12 such situational studies in

² Unfortunately follow-up data could not be reported, but the whole situation was understandably one in which this desideratum could not be worked out. Using other assessment measures was a compromise.

which this type of reliability agreement is enhanced by the use of standardized check lists.

Validity on the other hand is a matter of defining external criteria. Thus if verbal productivity is set up as a leadership quality in the IGD method then predictions can be made more readily by means of counting the number of spoken words than if leadership is compounded from a number of separate variables. More conclusive validity evidence must await an experimental design carried out in the field under realistic conditions with the control of many factors which singly or in combination may change the subject's perception of the situation.⁸ The predictions *must* be followed up satisfactorily.

- I Autobiographies
 - A Comprehensive
 - B Topical
 - C Edited
- II Questionnaires
- III Verbatim Recording
 - A Interviews
 - B Dreams
 - C Confessions
- IV Diaries
 - A Intimate Journals
 - B Memoirs
 - C Log Inventories
- V Letters
- VI Expressive and Projective Documents
 - A Literature
 - B Compositions
 - C Art Forms
 - D Projective Productions
 - E Automatic Writing
 - F Various

Allport comments that the most topically revealing personal document is the diary since the individual's perception of selected events for recording allows insights into the nature of what he has considered important and perhaps why. Since there are no facts in psychology that are divorced from personal lives, the human document is the most obvious place to find these facts in their raw state. (G. W. Allport 1942 pp. 143-144) If enough documents are collected over a period of time, they constitute a longitudinal study. It remains for the psychologist to evaluate the subject's attitudes and perceptions recorded in these personal documents. The point to note about these sources is that the uniquely idiosyncratic material usually available in these personal documents and productions has been motivated by a variety of reasons. Ascertaining these reasons through analysis of the contents is the most effective mode of using these documents.

Germane to this discussion are the criteria established by Dollard (1935) for the life history and G. W. Allport's

G. W. Allport (1912) expresses his reactions to Dollard's significant criteria quite favorably and goes on to suggest that there may be other equally effective and valuable considerations for the collection of life history material. He points to the "constitutional and temperamental" personality variables, to the lessons to be derived from a genetic approach to the interpretation of personal data, and to the necessity of considering the *individual in a situation* at every stage in history taking and interpretation. Another pertinent observation made by Young (1952), and ably supported by experienced clinicians (see Schafer, 1951, Chapter 2, pp. 6-73), is that interaction takes place between the interviewer and the interviewee. While the subjectivity stemming from the biases of each party to this interpersonal situation may be mitigated by the use of standardized case history forms, the needs and press of each person are continuously influencing phases of the procedure.

Formal Case History Devices

The purpose of the standardized history form is to ensure uncovering as much about the subject's life as is possible. There are record blanks which have been devised to emphasize certain aspects of life activities for specific uses. Several of these are discussed below.

AIDS TO THE VOCATIONAL INTERVIEW, RECORD FORM B. This form, published in 1933 by The Psychological Corporation, is an eight-page booklet designed to obtain information which will help with problems of vocational planning and counseling. The form may be filled in by the counselee and/or by the interviewer. A page is devoted to test results which may be profiled on the printed chart. A more recent adaptation of this interview aid is Bennett and Orbach's (1946) Guidance Summary Form (see Figure 41). Their main contribution is in the improved organization of the sequence for the life history queries. The items are slanted to elicit information regarding the individual's health, tem-

perament, general ability and achievements, special abilities or aptitudes, interests, education, training, vocational plans, and experience. There is ample space for the counselor to record his impressions, progress notes, and other pertinent data, including test findings.

SUGGESTED OUTLINE FOR HISTORY TAKING IN BEHAVIOR PROBLEMS OF CHILDREN. Mimeographed by the Institute for Juvenile Research, the chief concern of this outline is to obtain a picture of the child, his problem, and the background for it. There are 12 pages in this life history procedure covering:

factors in the psychiatric breakdown of the veteran. In addition to the usual past life history, there are sections for the present social adjustment (social relationships sexual and marital adjustments) and for the military history of the former serviceman.

INSTRUMENT FOR OBTAINING LIFE HISTORY The Divinity School of the University of Chicago publishes this eight page booklet. The emphasis is on personal material valuable for assessing and predicting success in training the applicant for the ministry. The form requires relatively short answers to some items, while other questions are answered by alternatives and by evaluating several personality dimensions on rating scales. Finally, the applicant has one page on which to present his autobiography. An interesting feature of this form is the section on proposed procedure in which the interviewer is required to indicate the subject's complexes, impulses, desires, conflicts and attitudes that need to be resolved, redirected, cleared up, and/or reconstructed.

YOUNG'S LIFE HISTORY FORM Another type of history form is suggested by Young (1952, Appendix, pp. 687-692). This life history outline emphasizes all aspects of the interviewee's past that contribute to an understanding of the development of the individual into the person he seems to be. Throughout the outline the interviewee is permitted to participate more completely than the mere recital of a chronology of events. The person is the focus with particular attention to the subject's own interpretations of the how's, the what's, and the why's of his life experiences.

Less Formal Procedures for Taking Life Histories

The clinician and the subject are permitted greater leeway in the less formal method of seeking and obtaining biographical material. This approach may be employed in informal interview sessions in which the clinician follows a general outline and permits the unfolding of data to determine, in some measure, the course, content, and duration of the inter-

view situation. The nature of these less formal techniques ranges from complete permissiveness for the subject to pursue any course and digressions therefrom in the interview (or counseling) sessions (C. R. Rogers, 1912) to the use of a list of items to be covered, if possible, in the course of the interview(s). Such guides are suggested by Wells and Ruesch (1945) and Doll (1953). No specific questions are given to the clinician. Rather, the information to be secured is suggested. The manner and sequence of eliciting the subject's responses are left entirely to the judgment of the interviewer. The interviewee is permitted freedom in responsiveness that resembles the spontaneity of the counseling or analytical session. This is in contrast to the more formal question and answer method. The following guide shows in detail the organization of the suggested items in one such history taking procedure.

- | | |
|--|--|
| 12 Overprotective mother
13 Dominant father
14 Dominant mother
15 Death of parent before age 16
16 Bicultural background (parents speak different language)
17 Intimate contact with diseased persons | 18 Unfavorable social environment (slum substandard or delinquency neighborhood)
19 Premature sex experiences (intercourse before 16 assault witness to coitus)
20 Excessive parental ambition for child |
|--|--|

Neuropathic Traits

- | | |
|--|--|
| 1 Minor neuropathic traits (nail biting thumbsucking)
2 Nervous breakdown (depression states of excitement)
3 Persistent fears
4 Persistent nightmares
5 Persistent obsessions
6 Persistent compulsions
7 Tics stammering stuttering | 8 Behavior problems (truancy fights disciplinary problems)
9 Antisocial behavior (criminal assault stealing)
10 Enuresis beyond 3 years
11 Emotional overreactions sudden outbursts (temper tantrums) |
|--|--|

Personality

- | | |
|--|---|
| 1 Difficulties with other children
2 Difficulties at school
3 Sibling rivalry
4 Shy withdrawn | 5 Extreme day dreaming
6 Cruelty
7 Fights and aggressiveness
8 Hyperactivity |
|--|---|

Educational History

- | | |
|---|-------------------|
| 1 Started school late (after 7)
2 Less than eighth grade education | 3 Repeated grades |
|---|-------------------|

Adult History

This section includes the period from age 16 up to the time of the examination. Items referring to events which occurred in childhood should not be marked in this section; however, if signs or symptoms carry over into adulthood, they should be checked.

Diseases

- | | |
|---|---|
| 1 Head injury (one or more)
2 Nervous disease (poliomyelitis multiple sclerosis neurosyphilis etc)
3 Convulsive disorder
4 Migraine
5 Major functional psychosis (schizophrenia manic-depressive psychosis) | 6 Major operations (2 or more)
7 Minor operations (3 or more)
8 Accidents (2 or more)
9 Fractures (2 or more)
10 Industrial poisoning
11 Venereal infection
12 Cardiovascular disease
13 Respiratory disease
14 Endocrine disease |
|---|---|

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- 15 Rheumatic disease
- 16 Gastrointestinal disease

- 17 Allergic disease

Gynecological Obstetrical History

- | | |
|--|-----------------------------------|
| 1 Two or more gynecological operations | 1 Premature or stillborn children |
| 2 Two or more obstetrical operations | 5 Persistent dysmenorrhea |
| 3 Spontaneous or operative abortions | 6 Periods of amenorrhea |
| | 7 Sterility |
| | 8 Menopausal syndrome |

Environment, Home and Social Status

- | | |
|---|--|
| 1 Living alone | 1 Conflict with the law (arrests, sentences) |
| 2 Unfavorable environment (slum or substandard housing) | 3 Conduct disorder |
| 3 Change of residence (more than 3 changes in last 3 years) | |

Occupational History (last 3 years)

- | | |
|---------------------------------|--|
| 1 More unemployed than employed | 1 Known to social agencies |
| 2 More than 6 jobs | 5 Last job held terminated within 6 months |
| 3 More than 3 occupations | |

Habits

- | | |
|---|--|
| 1 Tobacco abuse (more than 20 cigarettes 5 cigars 10 pipes daily) | 5 Abstainer |
| 2 Drug abuse | 6 Occasional drunkenness only (little alcohol consumption in between) |
| 3 Coffee abuse (more than 3 cups in one session or more than 3 occasions daily) | 7 Low alcohol tolerance emotional manifestations after 2 drinks of whiskey strong liquor or its equivalent |
| 4 Alcoholism (more than 1 qt whiskey or 20 bottles beer or 3 bottles wine per week) | 8 Injured while drunk |
| | 9 Injured in fight |

Sex

- | | |
|------------------------------------|----------------------------------|
| 1 Impotence or ejaculatio praecox | 6 Regular extramarital relations |
| 2 Frigidity | 7 Unhappy sex experiences |
| 3 Coitus interruptus | 8 Homosexuality |
| 4 Sexual promiscuity after 25 | 9 Other perversions |
| 5 Persistent masturbation after 25 | 10 First intercourse before 16 |
| | 11 Divorce or separation |

Neuropathic Traits and Symptoms

- | | |
|---|--|
| 1 Nervous breakdown (depressions states of panic and excitement catatonic episodes) | 8 Obsessive thoughts and compulsions |
| 2 Easily upset | 9 Mood swings |
| 3 Easily tired | 10 Transitory affective disturbances |
| 4 Anxiety attacks | 11 Speech disturbances (stammering stuttering) |
| 5 Anxiety tension (muscular tension with agitation and nervousness) | 12 Tics |
| 6 Nightmares | 13 Metapsychic interests (mind reading hypnotism astrology etc.) |
| 7 Fears or phobias | |

Interests

- | | |
|----------------|-------------------------|
| 1 No interests | 3 Radio newspapers only |
| 2 Gambling | |

Religion

- | | |
|--------------------------|----------------------|
| 1 Atheist or no religion | 3 Change of religion |
| 2 Member of small sect | |

Family History

Note diseases occurring in own siblings, parents siblings of parents and grandparents

Diseases

- | | |
|-----------------------|-----------------------------|
| 1 Suicide | 11 Fainting |
| 2 CNS disease | 12 Chronic invalidism |
| 3 Mental disease | 13 Malformations |
| 4 Mental deficiency | 14 Allergic diseases |
| 5 Nervousness | 15 Crime |
| 6 Nervous breakdown | 16 Alcoholism |
| 7 Heart attacks | 17 Venereal disease |
| 8 High blood pressure | 18 Tuberculosis |
| 9 Sterility | 19 Accidents war casualties |
| 10 Convulsions | 20 Neoplasms |

Present Symptoms and Complaints

Mark the outstanding symptoms and complaints at the time of the examination. Do not include symptoms and complaints which occurred only in the past.

Feelings

- | | |
|----------------------------|--|
| 1 Feelings of apprehension | 4 Lack of guilt feelings after misbehavior |
| 2 Feelings of isolation | |
| 3 Feelings of guilt | |

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- | | |
|--|-----------------------|
| 5 Feelings of inadequacy and in security | 7 General unhappiness |
| 6 Fear of losing love objects | 8 Mourning |

Physical Symptoms

- | | |
|-------------------------|--|
| 1 Poor health | 17 Enuresis |
| 2 General nervousness | 18 Impotence—frigidity |
| 3 Fatigue | 19 Headache |
| 4 Weakness | 20 Dizziness |
| 5 Sleeplessness | 21 Loss of consciousness |
| 6 Crying spells | 22 Convulsions |
| 7 Sweating | 23 Diffuse aches and pains |
| 8 Trembling | 24 Paraesthesia itching |
| 9 Flushes | 25 Breathlessness |
| 10 Vomiting | 26 Smothering |
| 11 Diarrhea | 27 Paralysis |
| 12 Extreme constipation | 28 Low back pain |
| 13 Poor appetite | 29 Difficulties of expression (speech) |
| 14 Anorexia | 30 Grinding teeth clenching fists |
| 15 Hyperexia | |
| 16 Urinary frequency | |

Ideas and Content of Thought

- | | |
|------------------------------------|--|
| 1 Disappointment about failure | 5 Ideas of reference |
| 2 Intellectual inefficiency | 6 Excessive self-observation |
| 3 Self accusation and condemnation | 7 Doubts and inability to make decisions |
| 4 Ideas of persecution | 8 Fears |

Body Regions Involved

- | | |
|-----------|-------------------|
| 1 Head | 8 Genitalia |
| 2 Face | 9 Anus |
| 3 Mouth | 10 Arms and hands |
| 4 Neck | 11 Legs and feet |
| 5 Chest | 12 Pelvis |
| 6 Abdomen | 13 Diffuse |
| 7 Back | |

Systems Involved

- | | |
|--------------------------|---|
| 1 Motor system | 9 Gastrointestinal tract |
| 2 Somatic sensory system | 10 Arms and hands |
| 3 Smell and taste | 11 Joints and bones |
| 4 Vision | 12 Sex apparatus |
| 5 Hearing | 13 Equilibrium and vestibular apparatus |
| 6 Skin | 14 Diffuse |
| 7 Respiratory tract | |
| 8 Circulatory system | |

Mental Examination

This section refers to the findings at the time of the examination

APPEARANCE, ATTITUDE AND BEHAVIOR

Expression and Posture

- | | |
|-----------------------|---|
| 1 Masklike face | 6 Lack of mimic modulation
(rigidity of facial expression) |
| 2 Stereotyped posture | 7 Silly smile |
| 3 Signs of distress | 8 Sloppy appearance |
| 4 Sad expression | |
| 5 Childish expression | |

Behavior during interview

- | | |
|--|---|
| 1 Hostile or belligerent | 5 Exaggeration pseudologia
confabulation |
| 2 Indifferent or passive | 6 Erratic |
| 3 Eagerness to make a good im-
pression | 7 Lack of insight |
| 4 Tendency to avoid topics | 8 Marked insight |

Movements and Speech

- | | |
|---|-------------------------------|
| 1 Generalized muscular tension | 5 Overtalkative |
| 2 Underactivity or retardation | 6 Monosyllabic |
| 3 Overactivity restlessness or ac-
celeration of movements | 7 Mute |
| 4 Involuntary movements | 8 Mannerisms |
| | 9 Stammering stuttering, tics |

General Behavior

- | | |
|------------------------------|--------------------------------------|
| 1 Irritability explosiveness | 5 Excitability |
| 2 Combative and violence | 6 Malinger |
| 3 Withdrawn | 7 Incontinence of urine and
feces |
| 4 'Sticky, pestering | |

Behavioral Diagnosis

- | | |
|----------------------------|------------------------------------|
| 1 Coma or semicoma | 7 Panic |
| 2 Stupor | 8 Twilight state |
| 3 Drowsiness | 9 Behavior problem |
| 4 Simple confusional state | 10 Conduct disorder |
| 5 Delirium | 11 Antisocial or criminal behavior |
| 6 Agitation | |

EMOTIONAL REACTIONS AFFECT AND MOOD

Mood and Emotions

- | | |
|-------------------------|--|
| 1 Poor rapport | 5 Emotional lability |
| 2 Flat affects | 6 Mood swings |
| 3 Inappropriate affects | 7 Transitory affective disturb-
ances |
| 4 Emotional rigidity | |

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- | | |
|------------------------------|--------------------|
| 8 Mania or hypomania | 11 Apathy |
| 9 General overapprehension | 12 Euphoria |
| 10 Depression or retardation | 13 Anxiety attacks |

Intellect

- | | |
|---|---|
| 1 Disturbed awareness and grasp | 6 Inadequate intelligence (level of aspiration higher than abilities) |
| 2 Disturbance of memory | 7 Unresourceful intelligence (inability to adapt impractical) |
| 3 Disturbance of reasoning and judgment | 8 Activity below intelligence level |
| 4 Disorientation | |
| 5 Aphasia | |

Thinking

- | | |
|-------------------------------|---|
| 1 Facilitation of thought | 6 Autistic, egoistic and introspective thinking |
| 2 Inhibition of thought | 7 Difficulty of verbalization |
| 3 Blocking of thought | 8 Slow mental speed |
| 4 Abstract—vague thinking | |
| 5 Loss of ability to abstract | |

Abnormal Mental Trends

- | | |
|---|---|
| 1 Persistent fears | 8 Somaesthetic delusions |
| 2 Phobias | 9 Ideas of self accusation and condemnation |
| 3 Obsessions compulsions | 10 Ideas of reference |
| 4 Feelings of unreality and depersonalization | 11 Paranoid ideas |
| 5 Overconcern with body functions | 12 Grandiose delusions |
| 6 Hypochondriacal delusions | 13 Hallucinations |
| 7 Feelings of passivity | 14 Illusions |

Personality

Rate the individual on the traits listed below. A check mark would indicate that the patient scores high on the respective traits. High is defined as a score which falls in the upper 16 per cent of the distribution of the normal population corresponding to a deviation of more than plus one S D (standard deviation) from the mean.

Personality Traits

- | | |
|-------------------|-----------------------|
| 1 Infantile | 8 Bigoted |
| 2 Suggestible | 9 Imposing |
| 3 Sensitive | 10 Resentful |
| 4 Self-conscious | 11 Fatigued |
| 5 Seclusive | 12 Lack of initiative |
| 6 Uncommunicative | 13 Distractible |
| 7 Suspicious | 14 Fanatic |

- | | |
|------------------------|-----------------------------|
| 15 Imaginative | 23 Impulsive |
| 16 Imaginatively dull | 24 Emotionally intense |
| 17 Meticulous pedantic | 25 Emotionally flat |
| 18 Sloppy | 26 Emotionally uncontrolled |
| 19 Undependable | 27 Emotionally inhibited |
| 20 Dissatisfied | 28 Warmhearted |
| 21 Loquacious | 29 Cold |
| 22 Erratic | 30 Strict |

This is one of the more extensive sets of suggestions for obtaining a life history. If carried to completion a great number of dynamic inferences regarding personality variables could emerge from these cues.

A more limited, open ended life history form is the Vineland Social Maturity Scale (Doll, 1953). The items are suggestive of inquiry into the person's adequacy in activities of daily living from birth to 25 years of age and over. The items from Year V-I to XII-XV follow.

V-VI¹

- 57 Uses skates, sled, wagon
- 58 Prints simple words
- 59 Plays simple table games
- 60 Is trusted with money
- 61 Goes to school unattended

VI-VII

- 62 Uses table knife for spreading
- 63 Uses pencil for writing
- 64 Bathes self assisted
- 65 Goes to bed unassisted

VII-VIII

- 66 Tells time to quarter hour
- 67 Uses table knife for cutting
- 68 Disavows literal Santa Claus
- 69 Participates in pre adolescent play
- 70 Combs or brushes hair

¹ Reproduced with permission from E. A. Doll *Vineland Social Maturity Scale*. Vineland, N.J.: Vineland Training School. Copyright 1936 by and Distributed by the Educational Test Bureau. This scale is discussed in detail in E. A. Doll *The Measurement of Social Competence*. Minneapolis: Educational Test Bureau, 1953.

VIII-IX

71	Uses tools or utensils..	—	—	—	—	—	—
72	Does routine household tasks						
73	Reads on own initiative						
74	Bathes self unaided	—	—	—	—	—	—

IX-X

75	Cares for self at table	—	—	—	—	—	—
76	Makes minor purchases	—	—	—	—	—	—
77	Goes about home town freely	—	—	—	—	—	—

X-XI

78	Writes occasional short letters	—	—	—	—	—	—
79	Makes telephone calls	—	—	—	—	—	—
80	Does small remunerative work	—	—	—	—	—	—
81	Answers ads, purchases by mail	—	—	—	—	—	—

XI-XII

82	Does simple creative work	—	—	—	—	—	—
83	Is left to care for self or others	—	—	—	—	—	—
84	Enjoys books, newspapers, magazines	—	—	—	—	—	—

XII-XV

85	Plays difficult games	—	—	—	—	—	—
86	Exercises complete care of dress	—	—	—	—	—	—
87	Buys own clothing accessories	—	—	—	—	—	—
88	Engages in adolescent group activities	—	—	—	—	—	—
89	Performs responsible routine chores	—	—	—	—	—	—

The major purpose of the material received from the subject and/or a creditable informant is to arrive at a social age, i.e., the individual's level of competence in various areas of life that are important for establishing, maintaining, and developing personal and interpersonal relationships. These areas are self help, general (the extent to which the person can take care of such personal needs as eating, dressing, cleaning, and toilet care), the individual's 'social locomotion' (the ability to move about to fulfill social responsibilities), occupational activities (ranging from infant crawling to responsible vocational participation), communication (from baby babbling to symbolic formulations), self-direction or the de-

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gree of personal independence, and socialization or the extent and nature of the subject's interpersonal ties. In the course of reviewing the material obtained from the informant, the interviewer can estimate the subject's social competency and assess the many personality features that enter into this picture of the functioning individual. Thus, social inadequacy may be traced to emotional instability, anxiety, and any of a host of dynamic factors.

Further along the continuum of nonstandard, informal history taking procedures is the approach exemplified in Rogers' (1912) nondirective counseling. He makes reference to the case history and its role in his concept and technique of *nondirective counseling as if it should be mentioned as a courtesy rather than as a necessity*. In his volume, *Counseling and Psychotherapy*, Rogers (1912) avers that a case history would be helpful in understanding the individual. However, since Rogers writes from the viewpoint of the therapist only, he feels that life history should be elicited only insofar as the counselee sees the need to relate such material.⁸ Where biographical data is forthcoming the chronological sequence is a matter of the counselee's response to the needs and press impelling him to such self revelations.

The formalized case history adduces to a systematic coverage of those aspects of the subject's life considered to be important. The advantage of the less formal procedures inheres in the permissiveness afforded the client to relate those facets of his life which he feels are significant to his problem. Systematic inclusion of the various facets of the individual's life by this method may take longer or may be sacrificed for deeper insights into the client's perceptions of himself and his difficulties. The question of the superiority of one method over the other is not easily dealt with since criteria of the merits of each type of life protocol are related to the

⁸Of greater concern to Rogers (1912) is the forward progress of the counselor-counselee relationship. The history taking role he believes interferes with positive movement toward gaining insights by the counselee. The core of his objection to formal history taking is that the subject will expect definite answers in return for the personal data furnished. This is at best a statement of belief.

purpose of interviewing to the skill and orientation of the interviewer, and to the interaction between the two persons.

An important aspect of the usefulness of this technique is the matter of validity. G. W. Allport (1912) has stressed this feature for personal documents. He cites several studies involving personal material (clinical interview and autobiographical data) and ratings of emotional stability derived therefrom. The coefficients of correlation are high enough to encourage further investigation of this technique as a means of assessing personality. With regard to the use of the life history obtained by means other than personal documents, Cartwright and French (1939) report a study in which two independent interviewers had equal access to sources of information (i.e., a friend, test results, and personal documents of the subject) about one person in addition to holding separate interviews with the person. The results indicate that knowledge of an individual, gained through a variety of sources, does help materially in understanding the personality dynamics and structure. Interestingly enough, these writers include in their report the fact that one close friend predicted the interviewee's Bernreuter Personality Inventory responses significantly above chance. Furthermore, each interviewer revealed different aspects of the subject's personality in keeping with their respective interests and biases. It is important to note in evaluating the reliability and validity of the life history technique that two interviewers working with the same subject might not agree entirely in their emphasis on specific experiences. Or each one might elicit somewhat varying bits of biographical data. However, these variations in specific life events that are uncovered do not necessarily diminish the validity of this technique. Each experience *did* occur in the life of the subject no matter which interviewer revealed it. It may very well be that collating the events elicited by the interviewers could lead to a more satisfactory and valid picture of the client's life history.*

* This point of view is expanded in Elkins' (1947) report on the interpretations of the case of Harold Holzer by six psychiatrists, three anthropologists, two social workers, twelve sociologists, twelve psychologists, and four lay

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D. W. Taylor (1947) also finds a high degree of agreement among judges' predictions of delinquency for 111 boys based on psychometric test data and case history material. In another study, McKinney (1947) compared the responses on the Pre-Interview Blank of 208 unselected (presumably nonpathologic) college students and 210 students with emotional problems. Each item on the interview blank was "averaged" for the two groups separately in an effort to ascertain whether there were significant differences in the group tendency to respond to particular items. In keeping with common sense expectations, there were many similarities and differences in the answers of the two populations. In regard to the variances between the unselected (with run of the mill personal problems) and the definitely emotionally disturbed student groups, it was found that (1) the unselected students were more responsive to their social milieu—had more friends, joined more organizations, and got along comfortably—than the disturbed students, (2) the unselected students expressed a greater degree of happy attitudes in replying to the various items, (3) the unselected persons were, as a group, more closely tied to reality and were prone to be less subjective with regard to events, less moody, and less concerned with those personality manifestations characteristic of the anxious and insecure individual, (4) the unselected group showed better personal integration, and (5) the unselected subjects displayed more positive, goal directed motivation. In a subsequent investigation Wertheimer and McKinney (1952) gave the same form to 200 college students and to 200 neurotics. The responses were analyzed for originality, use of space, overreaction to self rating, and feeling tones expressed. These investigators noted not only the contents of the history form but also the manner in which it was handled (use of space, especially). They concluded that as a group the neurotics (1) used scale extremes more often for their ratings, (2) were more origi-

men. There were agreements and disagreements among these specialists as each focused on one or another aspect of the life history. Each emphasized different personality variables in keeping with his respective orientations.

nal (3) made greater a typical use of space, and (4) expressed marked anxiety and negative feelings as compared with the normal group. From the two reports it is obvious that in addition to the value of the content of the individual's replies to biographical items, the psychologist has available the behavioral manifestations of personality variables. This adds significant interpretive and inferential material. Furthermore, this is an illustration of the projective use of case history data since the examiner considers as a source of self-expression not only the substance but the manner of responding in the life review situation.

The unique contribution of the life history as a *post hoc* type of situational test is that it makes available a longitudinal idiography of events which renders prediction more feasible for the individual. At the same time it furnishes one more case for establishing (nomothetic) norms for predicting behavior in those situations shared in common by a group of people.¹⁰ Young (1952) expresses essentially the same view in his focus on the interactive aspects of life history material. The present writer agrees that relevant biographical data are concerned with an individual in a situation at all stages of the inquiry. This is in contrast with the viewpoint that regards life history as a series of experiences with the individual as merely the person to whom these events occurred. Uncritical conclusions from autobiographical data are not warranted since the weaknesses inherent in paper and pencil psychometric personality tests may find their way into the biographical material produced by the subject. The OSS study, for example, did disclose that the major value of the collected autobiographical information was in assessing personality; other usages of this material were much less conclusive.

¹⁰ This is a very important factor in favor of the use of personal documents and life history as a means of assessing personality and predicting behavior. The interested student should read G. W. Allport's (1942, chapters 10 and 11, pp. 125-163) book for an extensive discussion of the cases for and against this procedure.

Life Situation Assessments 413**GROUP INTERACTIONS¹¹**

A major impact of social psychology on personality theory and personality assessment has been the development of techniques to observe and measure the effects of group interaction upon the individual. That novel dramatic and catastrophic situations may produce unique and unusual behavioral manifestations is confirmed by a multitude of research. However, most of the basic questions raised by situational research remain relatively open. Will particular social atmospheres produce uniformities in behavior despite individual differences in group members? Are certain personality factors related to the selection of particular roles in specific social situations? What is the effect of other group members upon the individual in his selection of role behavior?

Classic studies such as the OSS Assessment Program (1948), the Lippitt and White (1952) social climate studies, the Leaderless Group Discussion (LGD) by Ansbacher (1951) and Bass *et al.* (1953), among others have provided a host of ingenious sensitive and versatile techniques for studying personality in group situations. However while these studies have broadened the perspectives regarding the types of situations that could be investigated the precise delineation and measurement of the consequent response(s) is a problem. The investigator has no choice other than to make crude attempts either to standardize what turn out to be relatively trivial and sterile aspects of the interaction process or to hang on to what appear to be subjective unsystematic and unstandardized descriptions of the more important elements of group interaction. Some of the techniques that have been developed appear to have theoretical and pragmatic potential. Obviously with the multitude and variety of independent variables (i.e., aspects of a group situ-

¹¹ The discussion on group interactions, sociometry and interaction process analyses was written by Jack A. Kaphan, Ph.D., Assistant Professor of Psychology, University of Miami, and is used here with his permission.

ation which can be systematically altered for study) and the attendant difficulty in specifying the relevant dependent variables (i.e., the specific results due to specific alterations in the group situation), it is doubtful that any single technique will achieve the status of a key instrument in sociometry as have the *Rorschach* and the TAT in personality testing.

Most situation studies employ a battery of instruments, ranging from standard categorizations to unstructured introspective observations. In the following sections two of the more popular techniques are discussed.

Sociometry

Sociometry is a technique developed by Moreno (1953), Jennings (1950), and their associates as an attempt to measure the attractions and repulsions between individuals in a group on a specified set of criteria. Actually, sociometric assessment is a rating or voting procedure in which a person is asked to indicate his order of preference for those in his group or club with whom he would like to work, sit next to, play with, etc. While this is the essence of the technique, it lends itself to supplementation by interviews or questionnaires to discover the bases for the choices. The simplicity, versatility, and practicality of this procedure are its major assets. Furthermore, the conversion of the raw data into sociograms, i.e., pictorial views of the choices of individuals in the group for each other, clearly portrays the intricate group structure and makes this technique practical to use. An example of a sociometric study of group morale is presented in Figure 12 which shows the choices of two squadrons in the Air Corps during World War II.

Inspection reveals that the squadron with low morale rejected their executive officer while their commanding officer appeared in the role of an isolate—completely ignored by the members of the squadron. Furthermore, the men in this squadron appear to prefer men outside their group to their

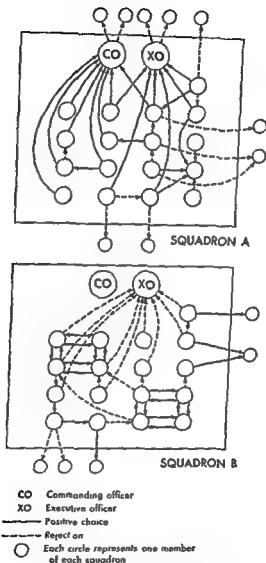


FIGURE 42 Sociometric Chart of Choices and Rejections of a High Morale Squadron (A) and a Low-Morale Squadron (B). (Source: Adapted from J. G. Jenkins, Nominating technique as a method of evaluation air group morale, *J. Aviat Med*, 1948, 19:12-19, Figures 1 and 2, p. 17)

own members. The formation of cliques within the squadron is also disclosed.

In the field of social interaction sociometry appears to have a wide area of application. In addition, sociometry appears to have considerable face validity as a method of evaluating personal social adjustment. Sociometry might also be considered as an operational approach to the assessment of such factors as an individual's impact upon others and his perceptions of roles and role behavior of others.

However, in addition to the obvious implications of the above rating, Bonney and Fessenden (1955), in reviewing validity studies of sociometry, point out that comparisons of high-choice individuals, i.e., those selected by a large number of the individuals in the group, with low-choice persons yield rather consistent differences. They state: "The kinds of behavior in which sociometrically high individuals are generally found to be most superior to the low ones are: extroverted interests, friendly contacts with others, punitive self-regarding attitudes, congenial relationships with parents and teachers, cooperative behavior, cheerfulness and buoyancy of mood, sensitivity to the responses of others, and the absence of eccentric behavior and bizarre thought trends" (p. 7). However, they caution: "These statements must not be taken to mean that there is some one type of personality which is invariably found to be characteristic of either frequently chosen or infrequently chosen pupils. There are too many individual differences in both these categories for any one type to be clearly identified" (p. 7).

For the moment, the questions raised at the beginning of this section are still relatively open. Friendliness, congeniality, cheerfulness, and sensitivity are situationally determined behaviors. It will take considerably more intensive research to determine the extent to which these traits and behaviors show dominance in a variety of situations. Also, when investigating a wider variety of social groups and situations, will these traits continue to be correlated with high choice? Will the same relationships obtain for a monastic group as for an athletic team? Another fascinating area, both theoret-

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ically and practically, is the question of sociometric status as the individual changes his position on issues that are vital to the group. For example, the leader of a political party might receive high choices from two or three factions within his party due to a variety of traits or attitudes that he manifests. What happens to his sociometric status when he takes positions that are contrary to the values of certain factions? On which criteria of sociometric choice will he lose his high choice position? Is there a type of leader who can maintain his status, even when he takes such contrary positions? Is it possible to compare the leader who maintains status only when his position is consistent with the majority with his counterpart who maintains status even when he takes an unpopular position in terms of the groups? This brings into focus another exciting research area that thus far seems to have been neglected—what is known about the personality of the individual who changes his choice as his leaders take positions disturbing to him as compared to the individual who maintains his choice even when leaders take positions considered personally disadvantageous? Sociometry may well provide a technique for supplementing and enriching some of the new and exciting developments in group dynamics.

Interaction Process Analysis

One of the major problems facing psychologists who are concerned with the dynamics of group interaction is the development of a standardized procedure for observing and categorizing behavior in different groups under varying conditions. Sociometry can provide indices of relative status in a group and the effects of group interaction directly. Bales (1950a, b) and his colleagues at the Laboratory of Social Relations, Harvard University, have designed an instrument called the Interaction Process Analysis which seems to be achieving popularity rapidly. The technique appears to have tremendous programmatic import for future research both theoretically and empirically.

Figure 43 lists the observation categories that are used. As in sociometry one of the main assets of this procedure is its fundamental simplicity. Every act that occurs in a group situation is classified into one of the 12 categories. With adequate training in the use of the technique, correlations between independent observers of 75 and 95 have been obtained. Every member of the group under analysis is given a number, while the group as a whole may be designated by 0. Thus as a meeting starts individual 3 directs a remark to the group and the content of this remark indicates that 3 is asking for possible ways of action. This might be considered as a category 9 statement and thus the observer would make the notation 3—0 in the line for category 9. Nonverbal responses are also recorded.

One of the key characteristics of the data from this scheme is the distribution among the 12 categories of the observations obtained in the group situation. This distribution is called the Profile. Another dimension is labeled the Who-to-whom Matrix. This characteristic of the actual communication pattern between individuals reveals the extent of group participation by the members. A third feature is the

Phase Patterns which depicts the changes in the type of activity as the group continues to operate. While these indices are primarily related to group behavior, they also have implications for the study of individual personality. The growing need for and use of group psychotherapy has brought a concomitant demand for standardized methods of evaluating individual behavior and progress in these group therapy sessions. Groups that make decisions and solve problems also lend themselves to the application of this technique.

An analysis of the Profile might be correlated with the types of individual personalities that make up the group. Do groups composed of assertive persons (as inferred from diagnostic criteria) produce different Profiles than groups made up of submissive individuals? What is the resultant interaction of mixed groups? The type of task, the amount

of time allotted for solution, and the physical setting are other variables that might be introduced

The 'Who to whom Matrix' also provides an interesting means for studying individual personality. Do certain persons address their remarks to the group rather than to other individuals? Does a particular type of remark tend to trigger off certain response tendencies in people? How does the matrix change when individuals are in structured groups as compared with nonstructured groups?

'Phase Pattern' analysis might yield indications of the impact of certain individuals upon total group activity. Thus, it is found that certain persons, when they initiate action, tend to change the quality of the entire group interaction. At the moment, sociometry and the method of Interaction Process Analysis represent techniques that may help the clinician in his validation of individual personality tests. Obviously, many of these devices are too cumbersome, at present, to be used clinically. However, these procedures seem to provide useful approaches to aid the clinicians who ask

How can we verify some of the behavioral predictions we make on the basis of our individual tests?

SUMMARY

The techniques in this chapter are anchored to activity. The situational procedure either sets up a problem or takes advantage of a set of circumstance that is already structured. The life history technique looks backward into completed acts. These descriptions yield interpretations of how situations are being or have been met, and the reason(s) for the behavior is inferred by the clinician observing the subject or reviewing the life history material. The interpretations and inferences may be focused in whole or in part on the psychological variables that are or have been, operant in the present and past situations. This type of attention illustrates the use of life data (situation and history) as a vehicle for assessing personality.

The third procedure discussed in this chapter, group

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interaction is designed to analyze and synthesize the personality make up of a group as reflected in the changes in attitudes, reactions, and positions of the members toward each other and toward an outside person or event. It is as if the social psychologist substituted group personality for individual personality assessment recognizing of course, that he is dealing with people in an organized Gestalt. Since human beings usually live in groups, this procedure helps to assay the changes in intragroup tensions, cohesion, and changes.

With reference to the reliability and validity of these procedures, a complicating aspect arises from the nature of the subject matter with which these techniques deal. The situational approach, more than the life history method, can be quantified and the data subjected to statistical analysis. Interjudge agreements offer the one type of reliability that has been repeatedly applied. The feasibility of equivalent form or test retest situational assessment remains to be tried. Validity will be established when a situational experimental design will include suitable follow up plans to check on the earlier predictions. Present procedures are mostly confined to comparing the observational inferences with such outside criteria as personality tests, autobiographical and biographical data, and ratings of other persons acquainted with the ratee.

The life history procedures present a more difficult problem with regard to validity and reliability. Briefly, the material obtained from various sources may not be reliable in the sense that interviewers do not obtain exactly the same data or emphasize the same facts in the life history. Yet both interviewers have secured valid data. The validity of the evaluations made from life history material is, in general, satisfactory.

The reliability of the modes of assessing group interaction is acceptably high. The significance of these techniques is that they afford social and clinical psychologists opportunities to study individual behavior in a social setting and to note the effects of the group on the individual and vice

versa This is an important factor in view of the need to know how groups will behave in terms of the interaction among its members

RÉSUMÉ OF PARTS IV AND V

Parts IV and V explored a variety of methods for the evaluation of personality structure and dynamics These methods are less successful in assessing personality than the psychometric and projective devices The morphological and endocrinological systems originated in the long history of man's attempt to give more tangible reasons for the observed behavior of his fellow man The latter system was especially faulty in that the humoral forerunners of modern endocrinology were not medically sound The idea of humors and temperament, however, has persisted to this day to the extent that such notions are part of the layman's descriptive repertory when discussing human behavior Constitutional procedures have most certainly been refined and made more accurate with the advances in photography and measuring instruments, but there is no concomitant increase in the validity of the personality assessment derived from these more accurate physical measurements

Mechanical and electronic recording of the activity of the various organ systems of the body have also proved to be a difficult method for personality evaluation The major weakness in the EEG and polygraph procedures is the fact that part functions are measured and the findings are used to interpret the total behavior of the individual In the polygraph method most of the satisfactory interpretations stem from the knowledge of the surrounding circumstances rather than from the recorded material itself As a practical instrument in crime detection this is desirable—even if it serves only to frighten the guilty into confessions But there is little to indicate a correlation between personality variables and EEG and polygraph records

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The life history method as an assessment technique has much promise. The situational method may be viewed as a form of projective procedure in that the subject not only follows instructions to solve a problem but the specific manner in which the testee completes the task is an expressive test. The OSS and CEI studies have contributed materially to the establishment of the lifelike situation as a feasible procedure for personality assessment.

Life history in this author's opinion is the best means of understanding why the individual behaves as he does. The main problem is obtaining adequate factual material so that the interpretations and inferences will be valid and meaningful for prediction. There are difficulties in connection with reliability and validity issues which merit further study. Sociometry holds promise for a better appreciation of social dynamics as mirrored in and influenced by the self-perceptions of the individual as he assumes a role or series of roles in the group.

PART VI

**The Application of Personality Tests
and Ethics of the Profession**

17. THE APPLICATIONS OF PERSONALITY ASSESSMENT TECHNIQUES

THE PURPOSE OF EVALUATION IS MEASUREMENT IN terms of "how much" of whatever parameter is being used. Thus, a table top has dimensions which are assessed quite easily. In the area of personality assessment, the issues are much more complex. The contributing factors are the personality quality to be measured, the available instruments, the person doing the measuring, the specific use of the test data, and the subject with his needs, press, attitudes, feeling tones, and reactions to the test and the tester. These conditions arise singly or in combination in any assessment situation. These are not unsurmountable obstacles, as evidenced by the tremendous amount of testing currently carried on in this country.

The major areas for the application of personality tests are

- 1 Clinics and clinical situations to which people have been referred because of personal problems. This would include out- and in-patient departments in all types of hospitals, guidance and mental health centers, and the offices of psychologists in private practice.

- 2 Various units of the country's public and private educational system, from grade school to graduate and professional colleges and universities. The need for psychological evaluation goes beyond selection on the basis of intellectual ability to cope with the course of study. Several graduate and professional schools include personality assessment as part of the entrance procedure.¹

¹ Dr. Molly Harrower is one of the pioneers in the personality assessment program in medical education. The Veterans Administration leads in the field of personality evaluation of clinical psychology trainees (see Chapter 16).

3 Vocational guidance, counseling, and training, in which personality testing is an important segment of information regarding the client. Job satisfaction and efficiency involve not only intellectual competence but also emotional suitability for the work demands.

1 Industry, which is fast becoming the largest user of psychological techniques for purposes of selection, placement, efficiency rating, upgrading, continued training, transfer, and separation of personnel. If various governmental civil service and merit system units are included in this category, it would certainly be the largest user of tests. Personality assessment tools are employed in many industrial selection programs, especially in the hiring of upper echelon personnel. Civil service units, however, are generally less concerned with testing beyond ability or aptitude.

5 The armed services, which is probably the most prolific user of tests. Draft deferment tests initiate the potential serviceman to the seemingly endless rite of psychological testing that he must undergo once he has been inducted or has enlisted. Tests are used for determining intellectual status, aptitudes, achievement, progress in training, duty assignments, and for other purposes, depending on the developments in the particular case. Should the serviceman become a patient in the neuropsychiatric service of a hospital, he would be given diagnostic tests in order to aid the medical staff in dealing with his problem on a psychological level.

The application of personality assessment tests in clinical psychology will be discussed in this chapter, and the four other major areas of application will be discussed in Chapter 18.

PERSONALITY ASSESSMENT IN THE CLINICAL SITUATION

In general, psychological tests are employed in out-patient clinics, in hospital services, in court clinics, in community service agencies, and in private practice for evaluating personality structure and uncovering dynamics of behavior. This information forms the groundwork for planning in

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and out-patient counseling or other therapy programs, for commitment to the proper state institution, and for disposition by the various courts concerned with juvenile, adolescent, and adult offenders.

The Clinical Team

The situations in which psychological instruments are utilized have individual and common aspects that make comparison a rather complex problem. The common aspects consist of the need to build a picture of the functioning personality which will make available for scrutiny the reasons for the referral of the client. Involved in this is the concept of the clinical team. This is the basic notion that infuses meaning into the concerted efforts of the psychiatrist, the clinical psychologist, and the psychiatric social worker as they pool their material about the patient seen from the viewpoint of their respective disciplines. From this emerges a developmental picture of the individual as a functioning person in a social setting. Not only is the personality structure open to view but the reasons for it are made accessible to aid in understanding the person.

In the Hospital

The clinical team leans rather heavily on the material that the clinical psychologist is able to contribute. Usually the life history is the major concern of the social worker. The psychiatrist, as leader of the team, is responsible for the psychiatric assessment and ultimate diagnosis and total welfare of the client. The psychologist presents test data and the interpretation of these findings. The team usually meets in staff conference to pool the material and plan for the disposition to be made.

In each of their approaches to the client and his problem, the team members have an individuality that is unique to their specific skills. The psychologist, as previously stated, is concerned with testing. Which of the great variety of methods and specific techniques is to be applied in a particular case is a function of his training, skill, agency procedures,

and case load. Most clinical psychologists prefer to include individual projective tests in a personality evaluation battery. In some instances, the battery is routinely given to most patients. This is not too desirable because different problems yield to different techniques. The selection of the appropriate tests should be the decision of the clinical psychologist either in conference with the psychiatrist or after a thorough analysis of the available information about the patient and a consideration of the purpose for testing. Most of the psychologists employed in hospitals are trained in the administration and interpretation of psychometric and projective techniques. However, there are some agencies, hospitals, and clinics which are so pressed for their services that the psychologist must resort to initial screening with paper-and-pencil devices to select those who are to be followed up more intensively with the projective techniques. In some few instances, because of the nature of the services offered, an agency will confine itself to the use of paper and pencil personality assessment tests. In this way large numbers of clients are serviced. An example of this is the community agency which uses a staff member with some training in psychology and psychometric testing to obtain a quick survey of personality structure and clues to problem areas.

In the NP (neuropsychiatric) service of a hospital, the clinical psychologist usually receives referrals from his own and other services for the psychological evaluation of patients. Within the NP service the referral is centered about the emotional disturbance of the patient and the differentiation between organic and functional disorders. In addition to the question of differential diagnosis, the team members are interested in the individual's reactions to his own condition, e.g., how does the organic perceive himself in terms of his brain pathology, awareness of the changes in intellectual and emotional efficiency between pre- and postmorbid stages and the shifts in socioeconomic status, etc.? The same problems arise in connection with the reactions of the neurotic and psychotic patients, especially insofar as these individuals react to their defense mechanisms, bizarre behavior, hallucinatory and delusory ideation, and their aware-

ness of changes in attitudes toward and by other persons

Referrals by other hospital services may be made because the nonpsychiatric patient has exhibited behavior and/or ideation not usually seen in the medical wards. The majority of such patients are referred by the internist, the pediatrician, the cardiologist, and the psychosomaticist since these physicians are well aware of the role of anxiety, insecurity, and emotional upheaval in the organic disorders. The referring services expect a clarification of the emotional problem and suggestions with regard to steps that might be taken to alleviate the functional difficulty.

There are hospital situations in which the psychologist is not assigned to the NP service but has a general affiliation with every department. Some hospitals serve a specialized population, i.e., alcoholics, psychotics, neurotics, disturbed children, etc. In each of these the clinical psychologist, the psychiatrist, and the psychiatric social worker, along with the ward attendants, nurses, occupational and physical therapists, work together for the habilitation and rehabilitation of the patient. These programs are built around the patient in terms of his physical, intellectual, and emotional capabilities. The latter information is the contribution of the clinical psychologist.

In Private Practice

In private practice the bulk of the client contact is therapeutic. The use of personality evaluation tests is somewhat limited in this particular situation because of such considerations as time and fees that must necessarily enter into the psychologist-client relationship. Psychologists in private practice may be called upon by community agencies, medical doctors, and psychiatric practitioners to assess the patient's personality make up as an essential ingredient in their continued care of the case.

A Case Report

The following report illustrates a case which the author handled as a private referral by a psychiatrist in private

practice The patient had been brought to the psychiatrist by his family because of his behavior and verbalized threats to people in his home and in the neighborhood The referring psychiatrist requested a complete personality evaluation, making specific mention of the Rorschach Inkblot Test and any other tests that might assist in this task The patient was seen for several sessions The test protocols and other raw data, along with the report sent to the psychiatrist, follow²

The patient, I A is a 34-year-old married male, father of two children, educated through high school and of the Hebrew faith His chief complaint is 'People say that I do not like them I hate people I even hate myself Other complaints include an extreme hate for Jews,' dislike of a utility company for refusing to give him service, and no use for my wife and children The tests administered to him are the Wechsler Bellevue Adult Intelligence Scale, Sentence Completion Test, Draw a Person Test, and the TAT

WECHSLER BELLEVUE ADULT INTELLIGENCE SCALE

Test	Score	Remarks
Information	15	Overideational, verbose Extreme pressure to speak. Repetition of some responses and comments in French
Comprehension	7	
Digit span	10	
Arithmetic	7	This is interesting I'm in a good mood today
Similarities	13	
Vocabulary	12	
Picture arrangement	11	
Picture completion	10	
Block design	10	
Object assembly	11	
Digit symbol	11	
Verbal IQ	109	
Performance IQ	110	
Full Scale IQ	110	

² This is taken from the author's report of a case in his book, *Elements of Rorschach Interpretation* New York: International Universities Press, 1951 pp 152-163

The overall performance on this test is irregular. Failure is followed by a diatribe against the Jews, the United States of America, the utility company, and other irrelevancies.

DRAW A PERSON TEST

Remarks The male figure expresses I A's attitude toward people. The drawings are essentially as barren as his own mentation. The facial features suggest a paranoid trend with aggression directed toward the environment overtly, and toward himself covertly. The former is quite obvious. The latter may be inferred from the heavy band around the neckline suggesting self-decapitation and elimination. The patient is hostile and the figures express it. The female figure is especially childish and presents psychotic features in its entirety (see Figures 44 and 45).

SENTENCE COMPLETION TEST

A summary of the expressed attitudes in various areas

Family—rejection of his own and parental family members with a great deal of hostility

Past—as a youngster he was always happy when alone, dreaded having to come home

Drives—unable to accept a challenge, strong conflict between the need to consider others and to please only himself

Inner states—(Contradictory and ambivalent attitudes are expressed here) He is emotionally labile, despite his dislike for his home, he does want to be at home and is actually afraid to stay away from his family, decries being alive and is afraid of being alone

Goals—I A is a nihilist, wants to devote himself to annoying people (how is this related to his fear of being alone?), a great deal of confused thinking is immediately evident from the test items in this area

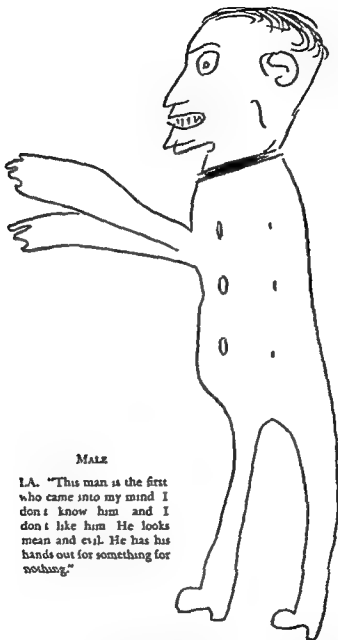
Values—in this area I A is contradictory and shows extreme confusion of what factors in life hold value and meaning for him

Energy—not much at best, uneven in expenditure of effort, but usually gives in when faced with a difficult problem

Outlook—sees the future as hard, bad, and full of grave discouragement

Reaction to others—poor, confused, hostile

Interpretation of reaction of other persons to him—thinks other people regard him as kind, there are occasional flashes of insight



MALE

I.A. "This man is the first who came into my mind I don't know him and I don't like him He looks mean and evil. He has his hands out for something for nothing."

FIGURE 11 The Male Drawing by I.A. (Source R. M. Allen *Elements of Rorschach Interpretation* New York International Universities Press 1951 Figure 2 p 157)



FEMALE

I.A. "This is supposed to be a woman. It's the best I can do."

FIGURE 45. The Female Drawing by I.A. (Source: R. M. Allen, *Elements of Rorschach Interpretation*, New York, International Universities Press, 1954, Figure 3, p. 158)

V. 7"

1) Δ L. 1. a butterfly.

2) ∇ Now it l. l. a bat, a small baby bat.

25"

VI. 7"

1) Δ The top l. l. . . . a caterpillar.

28"

VII. 11"

1) Δ What the hell is this! . . . l. l. two small bears, Teddy bears

2) Δ L. l. clouds, rain clouds.

32"

VIII. 5"

1) Δ That's pretty . . . these l. l. squirrels on each side, they're snaking up on something

2) Δ Fir, fir, tree.

26"

IX. 15"

1) Δ Gee! I don't know what this l. l. . . . It l. l. the inside of a person, internal view, got all kinds of colors, lungs, ribs, neck, kidneys—all the right colors.

45"

X. 13"

1) Δ A crab.

2) Δ This l. l. two moles biting into a tree.

3) Δ This l. l. a rabbit's head

1) (W) It's flying or gliding through the air. W FM+ A P

2) (W) It's sprawled out and I get the feeling it's flying, wobbly like. W FM+ A P

1) (D7) (points to portion of blot very carefully and identifies it again as a caterpillar) D F+ A

1) (D1) It's just the head and face of a bear cub. D F+ Ad

2) (W) The picture is gloomy, not bright, black clouds
W KF, C/F C1

1) (D1) (points to the blot area but comments only, 'The red one') D FM+ A P

2) (D1) The shape and the color green makes it l l a tree.
D FC+ P1

1) (W) I remember this from my biology. One thing equal to some things are equal to each other (Does not explain this ir relevancy) W C/F- At

1) It's very active, moving about (D1)

D FM+ A P

2) (D8) Seems as if they are trying to sharpen their teeth on the bark of the tree

D FM+ A

3) I couldn't draw one better than this myself (D5)

D F+ Ad P

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4) A This 1 1 two birds in flight

1) (D6) They seem to be flying together in formation

56'

D FM+ A

Summary

W	10 + 1	M	1	F%	20	
D	11	FM	7 + 2	F + c _o	67	
Dd + S	1 + 1	Im	0 + 1	A _c	63	
R	22 + 2	Ik	2	P%	32	
		kF	1	H + A Hd + Ad		10 5
		I	6 + 1	M Sum C		1 2
		IC	2	IM + m Ic + c + C'		6 2
		C'F	0 + 1	W M		10 1
		IC	2	Succession		Rigid
		C/F	1 (-)			

The behavior of the patient is just as revealing as his verbalizations and test findings. The following is an analysis and report of all the test data as made to the referring psychiatrist.

Examination of intellectual processes

Patient obtained a full scale IQ of 110 which places him in the upper limits of the average adult level of intelligence. There is no difference between his verbal and performance results. This is not a true picture of his native capacity. He is capable of doing as well as the high average or bright normal individual. He did very poorly in the comprehension items. This was due to his hostile attitude rather than his lack of knowledge. For example, on the envelope item he replied as follows: "Put it in your pocket go home and see if there's money in it. I used to do otherwise, mail it. Honesty does not pay any more. If you put it back you're a nice guy but I don't believe in being a nice guy." This type of reasoning characterized most of his responses to the items. This reflects his antagonism more than his lack of judgment. Furthermore, it is more serious in view of the fact that he does apparently know the right thing to do from the ethical desideratum but harbors thoughts of doing just the opposite. His bitterness is not covered up; on the contrary, it is very much on the surface and comes out at the slightest opportunity.

During the testing he displays tangential thinking and functions quite unevenly. He intersperses facetious remarks with sober responses to individual questions. For no ascertainable reason he breaks into his answers with irrelevant remarks e.g. tirades

He does take cognizance of outer reality and tries to limit the freedom and violence of his emotionality. Obviously he is not always successful. Ideationally he is quite sterile a fact which his verbosity fails to mask. He enters new situations with some enthusiasm but uses only a superficial rather than critical approach. The only concern he may show regarding his percepts is in terms of a need for reassurance rather than an intelligent evaluation of his ideas. Disturbing stimuli bring about a cautious reactivity coupled with anxiety features. He does not readily identify with people but his extravertive inclination literally forces him to empathize. He compromises this press by seeing his human figures in less than acceptable modes viz. half man and half ostrich. The anxiety trend becomes most pronounced reflecting severe neurotic disturbance when sex associated engrams are elicited (as in the Rorschach plates). In a basically psychotic structure this is a favorable element indicating that the break is not complete and that I A is still sufficiently in contact to be concerned about his behavior overt and ideational. His greatest difficulty is in the area of accepting the female concept. (The usual penile concept is disguised and therefore acceptable. In card VI this is seen more clearly—the first response is derogatory and in effect renders the association quite harmless to be followed by a percept that mirrors the extent of his free floating anxiety as engendered by the preceding idea. The second response also indicates the extent to which female ideation renders him unable to intellectualize and concretize his feelings.)

The male and female figures he drew express his attitude toward people. The male looks mean and evil. He has his hands out for something for nothing. With the exceptions of the facial features both are barren reproductions of his own body image. The facial features suggest a vivid suspiciousness directed toward the environment. The aggression is not at all disguised rather it is so dramatically depicted as to be inferred quite readily. Both figures show a desire to cut off the body at the neck line as if rejecting the rest of the body and at the same time executing it. The female figure is much poorer than the male indicating the discomfort of female tinged ideation. His attitudes toward women become very clear in the TAT stories. "The man is crying crying for? A lot of them hope for that. His wife died. Maybe she did not have insurance and he's crying, and so on in this vein. He expresses an intellectual interest in suicide and

remarks that he used to think about it but something holds me back." Another story also reveals the extent to which he cannot accept society: "This guy [card 15] looks like the chief devil and he looks like an undertaker [contamination?] Oh, yeah! An undertaker, either praying or counting his customers on the cemetery."

I A seems to be incapable of taking advantage of adjustive mechanisms that might contribute to a more stable balance. He is sterile of personal resources and too tenuously in contact with reality to make beneficial use of interpersonal relationships in the process of adjusting adequately.

Summary

1 This patient has potential high average intellectual ability. He is functioning much below this level. His poor evaluation of social situations and bizarre thinking tend to impair the effectiveness of his intellectual productivity.

2 The data suggest a basic psychotic structure—ambulatory schizophrenic involvement with movement in the paranoid direction.

3 Superimposed on this basic structure may be seen a free floating anxiety reaction.

4 It is not recommended that I A be considered for group therapy. He would probably be a disturbing influence in such sessions. He should be seen on an individual basis for the time being.

In Courts and State Institutions

The use of psychological tests for personality assessment in the courts has developed tremendously since the first decade of the twentieth century (Rubinstein and Lorr, 1954). One of the better known court clinic services in this country is the Institute for Juvenile Research in the state of Illinois. Its major function is to make psychological studies of children who are predelinquent or actually in difficulty with the law. The psychologist in this situation is usually free to use the test procedures most suitable to the particular youngster under observation. In such diagnostic centers the disposition may be supervisory release under certain conditions or commitment to any one of the state schools or institutions.

designed to meet the needs of the individual. The same disposition procedures are available in several states for all offenders committed to the state diagnostic center by the courts.

In state hospitals there is a definite trend toward continued re evaluation as treatment progresses in order to facilitate the inmate's release on parole or discharge. The psychological assessment of the sex offender committed to the state hospital or placed on probation with the condition of undergoing psychiatric treatment imposes an important responsibility on the clinician for it is his skill in handling the findings of his techniques that determine the welfare of the individual and society.

Assessment in Therapy

There are three problems which confront the counselor or therapist prior to accepting a client for treatment: (1) the chances for success, (2) the changes in personality structure and dynamics either during or after therapy, and (3) the probability of the client remaining in treatment. The counselor may judge on the basis of some subjective criteria with reference to any or all of these three considerations. Or he may resort to the use of personality tests to obtain a picture of the present functioning personality and its dynamics in order to assist in making decisions and/or ascertaining therapeutic progress. A large number of counselors choose to refer their clients to a clinical psychologist for such evaluation in the belief that the therapist should not be cast in the secondary role of diagnostician.²

² This attitude is more prevalent among nondirective counselors. The reason seems to revolve around the notion that if the counselor assumes the role of diagnostician, the counselee will then demand answers to his questions in return for the answers given to the counselor's inquiries. Psychiatrists and psychoanalysts have also referred patients to the author for progress evaluation because of the feeling that the therapist-client relationship might influence their interpretation of the test findings. Some referrals have been made by colleagues who are trained predominantly in therapeutic procedures and who recognize their limitations in the use of personality tests.

SUCCESS IN COUNSELING AND PERSONALITY ASSESSMENT. In this type of assessment the therapist is interested in ascertaining first, what pretherapy personality variables of the client indicate that he is a good candidate for treatment and, second, how response to therapy can be predicted from personality tests. There has been a great deal of work in this area but much of it has not been too well organized with regard to definitions of therapeutic outcomes (improved, unimproved); psychiatric classification of patients shows marked variations within identically labeled diagnostic groupings and subgroupings; and cross-validation studies are conspicuously rare (Windle, 1952). The results of these investigations are best characterized as inconclusive.

With regard to the first goal of personality assessment in a therapeutic context, the pretherapy personality structure most amenable to treatment, Barron's (1953b) study is significant. On the basis of an Ego Strength (ES) Scale (i.e., the degree of integrated and efficient functioning), he suggests that pretherapy personality variables in neurotics which facilitate therapeutic improvement are strong reality ties, personal adequacy, some moral flexibility, freedom from racial prejudice, and ability to express one's emotionality quite freely.⁴ Rosenberg (1954) has administered the Rorschach Inkblot Test, Wechsler-Bellevue Adult Intelligence Scale, and a Sentence-Completion Test to neurotic patients prior to therapy. His improved group displayed these pretherapy traits: high intellectual level, below average rigidity and stereotypy, and greater depth of feelings and sensitivity in reacting to persons, objects, and events in the life space. In a second phase of his study, Rosenberg reports that two judges are able to predict improvement or lack of improvement of a second group of neurotic subjects only from the data of their test protocols. Using the significant personality variables listed above as predictive criteria, they prognosticated favorable and unfavorable response to treatment

⁴ The Ego Strength Scale consists of 68 items from the MMPI which are listed in Barron (1953b), pp. 327-328. The derivation of this scale is in Barron (1953a).

at the 2 percent level of confidence. These same personality traits are intimately involved in the attempts to fathom the second aspect of therapeutic testing—the use of personality tests to evaluate the client's response to psychological treatment.

Several tests (see Windle, 1952) have been employed in this process. Bowen (1954) concludes that the extent to which a patient is able to conform to instructions to "force" himself to produce Mosaic Test patterns other than the type he usually constructs is an indication of his ability to change "his own typical behavior." The flexibility or tolerance for change from accustomed modes of responding is equated with tolerance for change in treatment. Moreover, those persons who alter behavior under pressure but revert to the accustomed mode when free to do so usually do not respond favorably to counseling.

Within the past several years, investigators have been working with the Rorschach Prognostic Rating Scale developed by Klopfer *et al.* (1951) for predicting the chances of therapeutic benefit prior to entering treatment. Lundin and Schpoont (1953), Mindess (1953), and Kirkner, *et al.* (1953) report positive predictive results with this scale using a single case that was followed up intensively (Lundin and Schpoont) and groups of patients including psychoneurotics and psychotics (Mindess, Kirkner *et al.*). The latter two studies offer positive validity evidence of the usefulness of this rating scale for selecting the clinical population most likely to benefit from psychological treatment. Rogers and Hammond (1953) suggest that single Rorschach Inkblot Test factors or determinants are not feasible as predictors of success in therapy. By selecting 13 "rules" involving combinations of Rorschach determinants, they approach some semblance of acceptable differentiation between improved and unimproved psychiatric patients. The same promising results are reported by Roberts (1954). The latter research workers have not pursued this problem as systematically as did Klopfer and his co-workers. The conclusion does seem inescapable that the pretherapy personality picture, as dis-

closed by Rorschach Inkblot Test indices does contain predictive signs for therapeutic screening⁵

ASSESSMENT OF THERAPEUTIC CHANCES During the course of psychotherapy and counseling changes take place in the client's attitudes self-perception and perceptions and reactions to other persons objects and events in the life space. Many therapists consider it essential to know the rate and nature of progress (or lack of it), the amelioration of maladaptive mechanisms and the appearance of insightful interpretations of events as a result of therapeutic experience. Of course therapists can judge these from the behavior and the verbalizations of the client in the counseling sessions. A more objective and perhaps complementary method would be to use a personality test prior to initiating therapy and during or after the process and then compare the two protocols. A device such as the MMPI scales is especially adaptable to this kind of evaluation. Schofield's (1953) study of patients discloses the dramatic changes in personality variables as revealed by the MMPI from pretherapy to posttherapy stages. Figure 46 presents the average test-retest MMPI profiles for four populations. (The letters at the top indicate the scales of the MMPI)⁶

It may be seen from Figures 46(B) and 46(D) that significant changes in most of the personality variables measured by the MMPI are reflected in reduced (and therefore improved) scores. The downward direction of the scale scores in these profiles discloses the movement from pre to posttherapy stages resulting from psychotherapy and electroconvulsive treatments. The profiles of the control subjects Figure 46(A) and the hospital neurotics Figure 46(C), show

⁵ It is necessary to be cognizant of the possibility that pretherapy predictions may be confounded by the skill of the particular therapist. It must not be assumed that favorable prediction applies a priori to all therapists and for all clients.

⁶ These scales are

Validity scales—? question L lie F validity K correction factor
Clinical scales—Hs hypochondriasis D depression Hy hysteria Pd psychopathic deviate
Mf interest or masculinity femininity Pa paranoia Pt psychasthenia Sc schizophrenia and Ma hypomanic

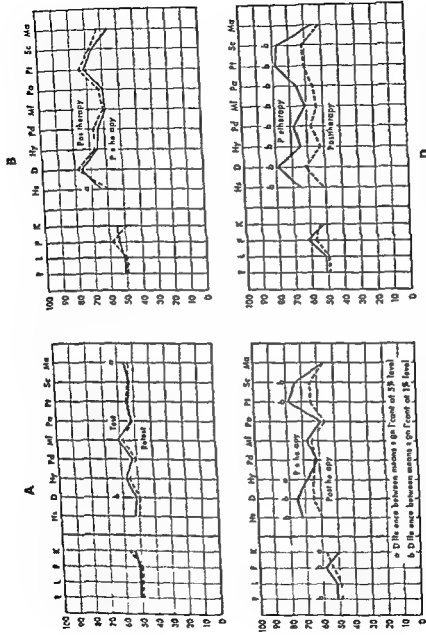


FIGURE 16 Mean Test Retest and Pre and Posttherapy MMPI Profiles for four Populations (Source Reproduced in modified form from W. Schofield, A further study of the effects of therapies on MMPI responses *J Abnorm Soc Psychol*, 1953 18 67-77, Figures 1, 2, 3 1 pp 69, 70, 71)

little change from test to retest. In the neurotic group, Figure 46 (B), the marked personality changes after 14 psychotherapeutic sessions reflect a redirection in intensity of the neurotic triad scales (Hs, D, and Hy) and the Pt, Sc scales. The validity scales of the MMPI are also modified in the direction of greater responsivity i.e., more items have been answered, and there is a tendency to be less rigid in self judgments (higher K scale scores). More dramatic alterations occur in the posttherapy profile of the psychotics who have undergone shock treatment. All scales disclose definitely significant improvement. Gallagher (1953) reports on another student group whose post counseling MMPI profile changes indicate better personal adjustment in the dimensions tapped by the Hs, D, Pt, and Si (social introversion) scales. Briefly, psychological help results in more personal 'comfort,' more outgoing behavior and responsiveness to external stimulation, and lessened feelings of inferiority and insecurity. Peterson (1954) reviews the changes in the Rorschach signs of pre and posttherapy protocols as the mirror of personality modifications. He does not find any regularity in the findings of past studies. His own reanalysis of some of the data leads to the conclusion that prediction of therapeutic success from qualitative and quantitative Rorschach signs is not tenable.

PERSONALITY ASSESSMENT AND CONTINUATION IN THERAPY

In this particular area the interest is somewhat academic since it is quite rare to receive a referral for the specific purpose of ascertaining whether the subject will remain in therapy. The studies on continuation in therapy by Kotkov and Meadow (1953) and Gibby, *et al* (1953) center about the Rorschach variables which are significantly different in the protocols of patients who continue and who discontinue therapy. These reporters conclude that clients remaining in treatment have greater tolerance for anxiety and a higher degree of motivation, and therefore cooperation, in therapy.

A final point in this section of assessment in therapy is the use of personality tests as a means of enhancing the progress

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of the counseling process. This is related to the three concepts discussed immediately above. During the course of personality evaluation topical material is revealed by the client which may prove valuable in helping to overcome an impasse or lacunae in the therapeutic exchange. For the therapist who plays an active role in counseling this is a source of material to be used in structuring the sessions. The psychologist notes areas of difficulty of specific problems for exploration with the client. The projective and paper and pencil psychometric personality tests can serve the function of furnishing concrete information about conflictual attitudes and ideas as well as the motivating forces in the subject's behavior. An example of this is F. W. Kings (1954) presentation of a single case in which the client's descriptions associated with drawn human figures actuated a complete counseling session. The subject's verbalizations around the figures are replete with self-referential material including topical sexual and familial information giving insights into the client's fundamental problems.

SUMMARY

The role of tests in psychological work is a significant one. The use of personality assessment devices is justified because they make available information regarding the individual which is applicable in a wide variety of areas in clinical, educational, vocational, industrial, military, and social situations. An important area is the clinical field in which problems of individuals assume marked proportions. By means of the evaluation procedures the clinician uncovers suppressed and repressed topical material which probably would be forthcoming only after a greater expenditure of time and effort over a number of interview sessions. In addition to the diagnostic evaluation and portrayal of personality structure and dynamics, tests are also utilized as aids in

*It must be remembered that some psychological therapists would not resort to this technique, preferring that the client be the source of revelations rather than a personality test.

psychological treatment. Therapists make use of test data in different ways, i.e., for selecting patients, ascertaining progress in treatment, measuring personality changes, and for research into changes in personality variables as reflected in test profiles (psychometric techniques) and response determinants (projective and other methods)

18. THE APPLICATIONS OF PERSONALITY ASSESSMENT TECHNIQUES (Continued)

PERSONALITY ASSESSMENT IN EDUCATION

THE SECOND AREA THAT UTILIZES PERSONALITY tests is the field of education. The particular applications are somewhat limited and related to the usages discussed in the preceding chapter.

The major educational agency using personality tests is the psychoeducational or school clinic designed to probe into the student's academic difficulties and institute a remedial program. The unique service rendered by personality evaluation testing is to ascertain the presence, and role of emotionality in the student's learning inefficiency. It is not unusual to find that a subject matter disability, such as poor reading, involves a personality problem. The same may be said of stuttering as a speech difficulty. The inclusion of a personality assessment device is helpful in ferreting out the variables accompanying the individual's school problem. Other areas of the educational field that require personality evaluation, as it relates to subject matter disability, are special programs for the slow learner, the physically and emotionally handicapped child, and the accelerated student. Diagnostic centers dealing with these problems go beyond scholastic appraisal. They are concerned with the total child as he sees himself and his problem in his milieu. In all of these, personality assessment is as essential for proper planning as the survey of intellectual efficiency and potential and

physical abilities and limitations. While it is desirable that the remedial and special education teacher be cognizant of the child's special abilities and limitations, she also needs to be sensitive to the attitudes of the exceptional child, the defenses that are being utilized to cope with the specific handicap, and the resultant behavior which sets the child apart from other school children.¹

The mentally retarded or slow learners present an additional problem that makes personality evaluation more essential. Sometimes a child is retarded not because of intellectual deficiency but because of intellectual inefficiency which is a reflection of a more deep-seated personal problem. The appearance of retardation is an adaptive mechanism shielding the child from the stress of coping with intolerable everyday demands. This is discernible by psychological testing that goes beyond mere intellectual appraisal. The condition known as pseudofeble-mindedness requires individual psychological treatment which can be instituted once it has been disclosed by test findings.

Two commonly encountered disabilities are in reading and in speech. Most schools and university clinics have established diagnostic and remedial services to handle these difficulties.

Reading and Personal Problems

Reading deficiency is a serious school problem. There seems to be a circularity in the efforts to ascribe a cause to this difficulty. Inability to read satisfactorily has been laid to emotional involvement and, conversely, the presence of a personality disturbance has been designated as the cause of inefficient growth in reading ability. Perhaps both aspects are significant once the vicious cycle has begun. Bennett *et*

¹The author is psychology consultant to the United Cerebral Palsy Clinic of Miami, Florida. The Department of Psychology of this clinic consists of two staff members and one intern. At least 75 percent of the referrals from the other clinic departments are for a personality evaluation of the patient. Intellectual assessment and a survey of abilities seem to play a secondary role.

al (1916) report that 39 percent of a group of retarded readers show definite personality difficulties. Various other studies have more than substantiated these results. More concretely, Spache (1954), for example, finds that young retarded readers differ significantly from normal readers in their responses to the Rosenzweig Picture Frustration Test. The former are more aggressive and negativistic than the latter group. These findings are representative of a host of other studies (Harris and Roswell, 1953, Siegel, 1954, Schubert 1954). In each, the investigator uses a particular test to elicit differences between satisfactory and poor readers.²

The psychologist in an educational or reading clinic must be well versed in personality assessment procedures since it is almost inescapable that the evaluation of a reading disability will lead to the need for uncovering and analyzing the student's personal difficulties. One of the more significant contributions by the staff psychologist is a determination of the severity of the emotional disturbance as well as its dynamics. In addition to a knowledge of interviewing and paper and pencil personality tests, the psychologist should be adept with projective tests. Such instruments as the Rorschach Inkblots, the TAT, and the CAT have been used to probe various facets of the relationship between personality and reading. Gann (1915) reports a rather extensive research project with unsuccessful readers in which the battery of personality tests includes the Rorschach Inkblots, Aspects of Personality Test, and a Personality Rating Scale. From the Rorschach Gann extracted a series of determinants characteristic of the poorly adjusted, unsuccessful reader. Meyer (1953) uses the Rorschach Test as a means of appraising the reading readiness of kindergarten children in terms of their intellectual and emotional maturation. From this cursory survey of some of the diagnostic work in reading clinics it is clear that personality testing is an integral part of the total evaluation program.

² A recent review of the personality issues involved in reading disability is presented by Rolinson in *Modern Educational Problems* (1953 pp. 87-99).

Speech Problems and Personality

The concepts elaborated in the previous section on reading difficulty are applicable in the area of speech pathology. This is true even though there may be a definite organic basis for the impediment. The effects of impairment in speaking are quite profound since speech is the major medium of communication among individuals. Allen (1932), Berko (1954), Duncan (1953) and Boland (1953), among others, have emphasized the adverse effects of a speech defect on personality and social development and intellectual functioning of the individual. To be successful in assessing the relationship between these factors and the speech handicapped, the speech clinic psychologist must be sensitive to their manifestations in the various measuring devices.

Boland (1952) employed Welsh's Anxiety Index, Taylor's Manifest Anxiety Scale, and Modin's Neuroticism Index as measures of the pervasiveness of the stutterer's emotionality. An effort to ascertain the role of anxiety in delayed speech is discussed by Duncan (1953) who utilized puppets as a diagnostic cathartic technique. Sheehan *et al* (1951) report the use of the Rorschach Prognostic Rating Scale to predict improvement and continuation in speech therapy for a group of college stutterers who had come to the university clinic for assistance. The protocols of the improved, the unimproved, those continuing, and those who dropped therapy are validly differentiated by selected Rorschach indices. Walnut (1954), on the other hand, has been unable to differentiate too well among his control, stuttering, crippled, and cleft palate groups of subjects with the MMPI. A similar inability to separate adult stutterers on the basis of the Picture Frustration Test characteristics is the conclusion reached by Quarrington (1953). This is in sharp contradiction to earlier studies (Madison and Norman, 1952). These inconclusive results seem to raise a question as to the etiologic and symptomatic aspects of speech impediment, i.e., is de-

fective speech a neurotic symptom or is it a developmental characteristic persisting from childhood? The preponderance of evidence favors the former view, although the latter is not a minor consideration

It appears that the psychologist in the psychoeducational clinic must know not only the modes of evaluating the specific difficulty which has resulted in the student's referral, but should also be in a position to extend the assessment process to include a study of the person who is failing. A therapeutic or remedial program cannot progress if the symptoms are treated *as though* they were disassociated from the student rather than as manifestations of an inefficiently functioning person.

At the university level, the clinic becomes more of a counseling center than a subject matter disability situation. However, most campus clinics still have units designed to handle diagnostic and remedial reading and speech programs. In its role as a counseling center, the clinic shares most of the characteristics of the clinic discussed in the previous chapter. As such, the psychologist should have the skills in keeping with the kinds of problems that will come to a center of this sort. Personality evaluation will be a sizeable portion of the everyday work load.²

PERSONALITY ASSESSMENT IN VOCATIONAL GUIDANCE AND COUNSELING

A major consideration in career planning concerns the extent to which the individual is able to adjust to the demands of the job. *For example, will the person who is interested in research that necessitates working in solitude without the stimulation of the presence of other people be able to remain in this situation for long? Will the somewhat reserved and self-sufficient person be happy in a vocation requiring a great deal of socializing, entertaining, drinking, and back*

² Dicarlo and Amster (1953) summarize the role of testing and personality evaluation with the auditorily and speech handicapped.

slapping? These are important matters not only to the job holder but to the industrial organization as well. One of the surprising factors in personnel turnover is that the cause of job hopping and job shopping is not lack of skills requisite for the position but failure in interpersonal relations. These difficulties may be mitigated to some extent by an adequate program of career counseling or vocational guidance. Included in this exploratory process would be a survey of the counselee's personality and a knowledge of the psychological processes measured by the tests.

The factors that have been assigned an important role in vocational counseling and occupational satisfaction are personal integration (Helper and McQuitty 1953), ties to reality, imagination, ego strength (Small 1953), and freedom from disabling neuroticism. The personality devices that are most often used in connection with vocational counseling are the Bell Adjustment Inventory, the Bernreuter Personality Inventory, the MMPI, the Study of Values, the Rorschach Inkblot Test, and the Vocational Apperception Test. The material derived from these tests becomes an integral part of the student counseling record.

In addition to the advisement programs designed to help high school and college students select vocational goals and curricula to meet these objectives, there are community social agencies, counseling services in connection with the Veterans Administration, educational and rehabilitation programs, and psychologists and vocational counselors in private practice who offer a vocational guidance and career planning service to the public. Usually these agencies draw from a nonschool population and from the older persons in the community. It is often observed that individuals coming to a vocational counseling service or to a psychologist primarily with a guidance problem turn out to have personal life conflicts of varying degrees of severity which are interfering with job satisfaction or with training in an occupational curriculum. In these instances the counselor has to deal with the real problem as well as with the symptoms. This calls

for an analysis and synthesis of the personality variables that can yield to evaluation with the psychologist's instruments. To accomplish the total guidance and counseling job satisfactorily, the psychologist must be equally skilled in the administration, scoring, and interpretation of personality techniques and in the repertory of achievement, aptitude, intelligence, and interest tests. The above strongly suggests that the role of personality evaluation in vocational counseling should not be a matter of selecting social and vocational stereotypes (e.g., all salesmen must be very extroversive and all research chemists should be intratensive) as vocational counseling guides. Rather, the findings on the personality assessment devices should be interpreted in the light of the individual's personal integration, disabling neurotic traits, and maladaptive (from the point of view of intellectual and vocational efficiency) mechanisms. In other words, personality tests should be used to locate areas of difficulty which may be significant for future occupational adjustment.

PERSONALITY ASSESSMENT IN INDUSTRY

Psychological testing in industry has reached tremendous proportions. There are private consulting organizations devoting full time to planning and carrying on programs of personnel selection, placement, separation, training selection, upgrading, and efficiency rating and programs to cope with issues in management-labor relations. Many large industrial corporations have personnel departments engaged in the above activities as well as clinical psychologists to deal with personal difficulties of employees and to consult with high-level management with regard to human engineering problems, i.e., how to fit the machine to the individual and matters of production efficiency. This is an expanding field of inquiry and service in view of the realization by both management and labor that technological developments do have a tendency to be reflected in attitudes, reactions, feelings, and efficiency of the employee.

The psychologist brings with him his knowledge of research techniques scientific methodology and evaluation procedures. The enormity of the task and the variety of service areas for psychologists in industry are discussed in detail by Ghiselli and Brown in *Personnel and Industrial Psychology*. The present comments are limited to the role of personality assessment in the industrial situation. Much of what has been stated in the previous section with regard to personality and vocational guidance holds for the industrial use of such tests. The basic rationale for the testing program so far as personality assessment is concerned is to give management better than chance assurance that the selected individual is emotionally as well as intellectually and competently suited for the job program under consideration. Since personnel turnover is quite expensive for an industrial organization it should be in a position to demand from its psychological consultants that this financial expenditure be reduced through the evaluation procedures.

One of the urgent problems in manufacturing industry is accidents. Accident prevention programs are a continuous activity of these plants. Ghiselli and Brown believe that the clinical psychologist has a definite place in such a program. In their analysis of this serious problem these industrial psychologists make the point that the causes of a high accident rate will usually yield to investigation by clinical procedures, i.e. a study of the relationship between the person and the factors in the accident. This is evidenced by reported drops in accidents after commercial drivers had been seen in accident clinics (Fletcher undated Shellow 1939). Part of the clinical procedure includes a personality evaluation of the drivers to ascertain the congruence of accidents with personality variables. Where the question of accident proneness is an industry wide project less attention may be paid to the individual employee in order to derive normative and differentiating groups. Where the individual prone and nonaccident prone groups. Where the individual becomes the focus because of a unique problem the research

orientation shifts to an applied one in which the psychologist must probe beyond normative personality variables into idiodynamics with a view to some disposition of the case.

PERSONALITY ASSESSMENT IN THE MILITARY ESTABLISHMENT

The most significant aspect of personality assessment in the defense establishment of this country is that the statements made with regard to the use of tests in the other areas holds for this area too. In the mental hygiene consultation centers, in the NP (neuropsychiatric) services of military hospitals, and in the rehabilitation centers, the clinical psychologist is an important figure contributing to the understanding of the psychiatrically involved serviceman. Clinical psychologists are also attached to disciplinary barracks, military prisons, and correctional units. In addition, clinical psychologists are utilizing their knowledge and skill in research programs to delve into causes of mental illness, precombat screening, and therapeutic procedures. The research projects include normal and emotionally disturbed groups of subjects.

The military psychologist also performs the duties of an industrial psychologist in that part of the selection program for officer candidate training, flight crew interaction variables, and pilot training recruitment and screening have been assigned to him. He also makes a study of the social and cultural factors in adjustment to service living.

Related to the military establishment, but not part of it, are the United States Public Health Service, the National Institute for Mental Health, and the Veterans Administration. These governmental agencies employ, directly and indirectly, the greatest number of clinical, counseling, and research psychologists. The service functions approach those of the clinical psychologist and psychological research related to mental health problems. The psychologists in these programs are skilled in the use of psychometric and projective methods of personality evaluation. The research literature is almost completely taken over by the plethora of studies in progress

and completed in the area of personality assessment as it relates to diagnosis, dynamics, and treatment ⁴

The applications of personality evaluation to problems of social living and the adjustment of the individual to his group are evident throughout the five areas discussed above. In clinical applications, in the psychoeducational center, in vocational counseling and guidance, in industry, and in the military establishments, the direct and implied goals are adjustment within the group as a concomitance of personal adjustment. It is logical to assume that probing personal problems will consider the individual's relationship with his group and his interpretation of his social role. Within this frame of reference, remedial and placement measures will aim toward establishing a greater degree of harmony and satisfaction in the individual as a member of his group.

SUMMARY

In the areas discussed in this chapter, the function of the psychologist is more adequately performed if he is competent with personality assessment tools. No one particular kind of test can satisfactorily meet the demands placed upon the psychologist as he attempts to cope with the complexity and the variety of situations brought to his attention by the referring agency or professional colleague.

⁴ For a detailed discussion of these services and functions see Rubenstein and Lorr *A Survey of Clinical Practice in Psychology* (1961 Chapters 7-11, pp. 83-159).

19. TESTERS AND ETHICS

IN THIS CHAPTER AN EFFORT WILL BE MADE TO sum up the important aspects of personality assessment in terms of who should use tests and the ethical considerations in their use. A cautious attitude which best serves the welfare of the client seeking the psychologist's help is contained in this statement: No test can be better than the person using it. This is actually a bifurcated problem in which the psychologist must be aware of his own limitations as a test interpreter and he must be cognizant of the boundaries of the evaluative devices he employs.

WHAT ABOUT TESTERS?

Another way of stating this question is: Who shall use tests? This is a serious matter since it involves a professional service to a client or patient. Obviously, the professional service of assessing personality must be undertaken only by those who have the proper qualifications by virtue of education, supervised training, and experience. At the present time there are intraprofessional controls exercised by the American Psychological Association, the national professional society, and test publishers and distributors on the one hand, and the self-imposed restrictions that become manifest to the preprofessional psychology student in the course of his undergraduate and graduate training on the other hand. The criteria which emerge from academic and preprofessional training are presented immediately below.

CRITERIA FOR QUALIFIED TESTERS¹

1 Whether the examiner is functioning at the level of a psychometrician or clinical psychologist he should have a basic knowledge of the processes the tests are presumed to measure. This conceptual framework is essential for selecting tests to meet the demands of a particular problem presented by the client to serve as a rationale within which test data are to be interpreted. The psychologist may encounter theoretical and practical difficulties if he places sole reliance on scores with little regard for the psychological processes which contribute to or detract from the final numerical expression. The ensuing description is at best a matter of equating a number with some verbal term: e.g. a score of 25 on the home scale of the Bell Adjustment Inventory means a poor home adjustment nothing more. It adds little to the understanding of the reasons for the responses.

2 The first desideratum necessitates that the tester undergo proper training in the principles of psychology, the concepts of normal and pathological behavior, the psychodynamics of behavior, the theory of test construction and the techniques of test administration, scoring, interpretation and report writing. In short, a course in testing far from constitutes an adequate background. Any high school student can be shown how to administer and even to score the usual paper and pencil test. But this is the smallest part of test usage. The real purpose of measurement begins where scoring leaves off. The training received in courses in test theory, construction, administration, scoring and interpretation prepares the potential test user for the important task of careful, cautious and judicious psychological evaluation. In addition to formal lectures and laboratory work, the student should have supervised experience in a clinic or other situation where testing is one of the agency's services. The supervisor should be fully qualified—a Fellow of the American Psycho-

¹ The basic ideas considered in this section stem from Greene (1977) and Allen (1977).

logical Association or an equivalent professional association which sets up educational and training criteria for membership

3 The qualified examiner fully appreciates the necessity for using proper norms. This requires that he have adequate knowledge of the principles of sampling techniques and their application to the selection of the particular test's standardization population. This information is usually given in the manual which accompanies a test. By knowing the population on whom the test is standardized, the psychologist is in a position to decide whether or not the individual with whom he is working falls within the definition of the population and, therefore, whether or not he should be given this test. One of the commonest errors is the incorrect use of tests. Related to the matter of norms is the selection of the appropriate form of a test if more than one is available. This would be the case in the use of the Bell Adjustment Inventory in which there is one form for adults and another for students.

Another factor in this consideration of proper norms is that the test user must apply the correct set of norms to his particular subject. This problem does not arise where there is one set of norms for the entire population. However, there are personality tests which have separate norms for the sex, age, and educational level of the subject. The Bernreuter Personality Inventory has separate norms for male and female high school and college students and for adults. The projective techniques do not have norms that are as readily and objectively delineated as those for the psychometric devices. This is one of the many reasons for the need to establish special courses in projective theory, test administration and interpretation.

4 A good tester should be a good observer. He is not only interested in the concrete responses but also in the various behavioral mannerisms which accompany responses. These are reflective of emotional blocking or some other characteristic that will contribute to the more complete description of the individual in the testing situation. This assumes, of course, that the examiner has sufficient knowledge of his test

to know what to look for not only in responses but also in the subject's responsiveness. There is the further presumption that the examiner has selected a given test because he is so thoroughly acquainted with it that he is certain it meets the needs of the total evaluation situation.

5 An important quality in a good tester is the ability to obtain and maintain rapport with the testee. Since the testing situation is an interpersonal one, it is almost inevitable that there will be some effect of the tester on the testee and vice versa. The efforts of the test administrator should be directed to winning the confidence and enlisting the full cooperation of the subject. Basic to this interpersonal relationship is the examiner's attitude of assuring the client that *he* is the focus of the test situation and that all of the activity is designed to help *him* cope with *his* problem. There are many techniques that might be used to establish rapport depending on the age and sex of the subject.

A corollary to the above stems from a problem which arises in connection with the administration of most of the projective techniques. In the Rorschach Inkblot Test, for example, it is an absolute requirement that the tester control the depth and extensiveness of the inquiry into the determinants of each response. In the inquiry and testing the limits phases, it is important for the psychologist to be cognizant of his posing leading questions and his failure to ask others because of his own needs and press. In other words, it is essential for the good examiner to know where his subject's problems end and his own begin as he administers scores and interprets the protocols.

6 An examiner should be sensitive to the extratest factors which might interfere with the testing situation and with the opportunity for the subject to respond optimally and maximally. Distracting factors should be eliminated or held to an absolute minimum. Other persons should not be in the room unless there is a cogent reason for their presence and seating arrangement and test furniture should be comfortable but not conducive to dozing off.

It seems as though good working habits are just as neces-

sary in a testing situation as they are in any other work circumstance. Discomfort, embarrassment, and waste of time are usually minimized if the tester is acquainted with his instruments, has a purpose for using his tests and is otherwise capable of empathizing with his subject.

INTRAPROFESSIONAL CONTROL: A CODE OF ETHICS FOR PSYCHOLOGISTS

A profession is as good as the ethical values of its practitioners. The road to professional attainment is portrayed in Watson's (1954) paper and Daniel and Louttit's (1953) volumes. The culmination of this effort toward professionalization is summed up in *Ethical Standards of Psychologists* released as a provisional report by the Council of Representatives of the American Psychological Association (1953). In addition to these statements of principles and problems of professional growth, there are the ethical criteria established by state and regional psychological associations. Furthermore, the American Board of Examiners in Professional Psychology has released a set of principles for the diplomates in clinical psychology, industrial psychology, and counseling and guidance (1952). In several states there are licensing and certification laws in effect restricting the practice of psychology and the use of the title psychologist to qualified individuals. Written into these statutes are requirements of professional and ethical conduct on the part of the license or certificate holder. Other sources of control reside in the rules and regulations laid down by the large employers of professional psychologists—the Veterans Administration, the United States Public Health Service, and the various branches of the defense establishment. These organizations have had a salutary effect on the growth of psychology as a science and as a profession.

Intraprofessional control may also be found in the rules of professional conduct and ethics adopted by local organizations of psychologists.

An illustration of this may be taken from the action of the Southeastern Florida Psychological Association pertinent to the control of professional

The standards of ethical behavior extend into various aspects of professional practice relationships with the public and other professions, with colleagues in the same profession, and, above all, with clients. Because of the academic and laboratory roots of psychology, there are sections of the American Psychological Association's statement on ethics covering teaching, research, and publication activities. The immediate concern of this section is the matter of ethics and standards with regard to the use of psychological tests. The control is intraprofessional and has also been self-imposed by the various test publishers and distributors.

Ethical Principles

Intraprofessional controls are adequately formulated in the following principles excerpted from the APA statement (1952):³

"Principle 2.11-1. The psychologist in clinical and consulting practice, mindful of the significance of his work in the lives of other people, must strive at all times to maintain highest standards of excellence, valuing competence and integrity more than expedience or temporary success" (p. 39). This is an excellent, all encompassing principle which could well serve as a guide for living. More specifically, the psychologist is being asked to place client welfare above all other considerations.

The next principle that has particular interest for the student of tests and measurements is Principle 2.12-1: "The psychologist should refuse to suggest, support, or condone unwarranted assumptions, invalid applications, or unjustified

advertising in the classified telephone directory of Greater Miami. In order to bring some order out of chaotic and distasteful advertising in the phone book, the members of the SEFPA agreed to have only their names and addresses listed in a box headed by the simple statement *Southeastern Florida Psychological Association. The following are members of this association.* Now this association is considering the larger problem of advertising under listings other than *psychologists*.

³ All of the principles quoted in the text above are taken from the *Ethical Standards of Psychologists* (American Psychological Association, 1952). References in the parentheses are to the pages in this report.

conclusions in the use of psychological instruments or techniques (p 41) This will serve to protect the client from possible abuse and misuse of tests and test data

Principle 2 15-1 (pp 45-46) emphasizes the necessity for the psychologist to be aware of the inadequacies in his own personality which may bias his appraisals of others or distort his relationships with them and refrain from undertaking any activity where his personal limitations are likely to result in inferior professional services or harm to a client Here is recognition that psychologists are people with all the qualities of human strengths and weaknesses Since this is so the psychologist is urged to avoid the possible misuse of tests

The following four principles (p 51) should bring the student closer to the problems inherent in the role of the tester

Principle 2 22-1 Clinical or consulting activities such as administering diagnostic tests or engaging in counseling or psychotherapy, should be undertaken only with professional intent and not in casual relationships

Principle 2 22-2 The misuse of the clinical or consulting relationship for profit for power or prestige or for personal gratifications not consonant with concern for the welfare of the client is unethical

Principle 2 22-3 The psychologist should not guarantee easy solutions or favorable outcomes as a result of his work

Principle 2 22-4 It is unethical to employ or to claim to have available secret or arcane techniques or procedures in clinical or consulting work

These principles indicate the futility from a professional viewpoint of permitting personal motives to affect the level and kind of service to the public

With regard to the disposition of test findings the following offers excellent guides Principle 2 31-1 Professional standards require that psychological information such as the results of tests or of a diagnostic appraisal be given to a client in a manner likely to be constructive in his efforts to solve his problem (p 60) In the event that findings are not to be communicated to the testee for proper reasons

Principles 2.33-1 and 2.33-2 (p. 63) suggest that the reports be written with the central view of helping the client and that they be sent only to those persons involved in the therapeutic rehabilitative or aid program. Should the information have to go to a nonprofessional person? Principle 2.34-1 (p. 65) places responsibility on the psychologist to make certain that the recipient is entitled to the report and that it is written accurately and with candor in language that facilitates the welfare of the client. The importance of proper and adequate communication of test findings cannot be overemphasized.

To guard against the abuse of psychological tests, Principle 2.62-2 states: "It is unethical to employ psychological techniques for devious purposes for entertainment or for other reasons not consonant with the best interests of a client or with the development of Psychology as a science." (p. 84)

The provisional code of ethics for psychologists has a subsection designed to apply specifically to the use of tests (pp. 143-156). Some of the principles concern the qualifications of test users and the responsibilities of test publishers and distributors. This will be considered from the point of view of the American Psychological Association and the cooperative efforts of the test suppliers. Principle 5.41-1 states:

Professional standards require that tests and diagnostic aids be released only to persons who can demonstrate that they have the knowledge and skill necessary for their effective use and interpretation. (p. 146)

There follow three classes or levels of tests and the individuals to whom such devices may be sold if they meet the criteria:

Level A Tests or aids which can be adequately administered, scored, and interpreted with the aid of the manual and a general orientation to the kind of organization in which one is working. Such tests and aids are appropriate for use and interpretation by responsible, educated nonpsychologists such as school principals and business executives. (p. 146)

Level B Tests or aids which require some technical knowledge of test construction and use and of supporting psychological and educational subjects such as statistics, individual differences, the psychology of adjustment, personnel psychology, and guid-

ance . " (p 146) [The list of requirements includes qualifying education, employment, and either membership in the American Psychological Association or an equivalent professional association, or endorsement by a member of a professional group]

Level C Tests and aids which require substantial understanding of testing and supporting psychological subjects, together with supervised experience in the use of these devices " (p 147) [This applies especially to clinical psychology and its techniques]

The qualifications for *Level C* are "(1) Members of the American Psychological Association who are diplomates of the American Board of Examiners in Professional Psychology or Fellows in appropriate Divisions, (2) Members of the American Psychological Association or persons with at least a master's degree in psychology who have had at least one year of supervised experience under a psychologist who is a diplomate or Fellow in an appropriate Division " (p 147) "(1) Graduate students who are enrolled in courses requiring the use of such devices under the supervision of a psychologist with the qualifications in 1 or 2 above . ' (p 147)

Control by Publishers and Distributors

The test publishers and distributors have generally taken steps to make certain that the criteria for the users of tests are followed. A survey of the catalogues of 13 test supply houses and publishers reveals that (1) One organization devotes a full page of its catalogue to a replication of the statement of the American Psychological Association's Committee on Ethical Standards for Psychology, thus spelling out concretely who may purchase its tests. Each test is also coded to indicate the level of the test and therefore the qualifications of the potential user. (2) Seven publishers and suppliers specify the qualifications of purchasers but in less detail than in (1) above though not necessarily with lower standards. There is ample indication that the potential purchaser of

testing devices must possess qualifications that are acceptable to the American Psychological Association. The person ordering the tests must establish his right to have access to tests by completing a form or otherwise setting forth his professional qualifications and status. (3) Three catalogues contain statements to the effect that the tests offered for sale are available to professionally qualified persons but give no details as to the criteria to be applied prior to accreditation.

(4) Two test publishers make no mention of the restriction of the sale of tests in their catalogues. A survey of the tests however indicates that most of them would most probably be classified as Level A of the American Psychological Association's three categories of tests and diagnostic aids.

To assist the psychologist in the selection of desirable tests and to protect the potential test user from being subjected to slanted information in test releases and publications these principles have been made part of the code of the APA.

Principle 5.46-1. Test manuals to meet professional requirements should summarize the method of constructing and standardizing the test together with the procedures, criteria and findings of all validation studies. (p. 154)

Principle 5.46-2 recommends the revision of manuals, norms and tests in keeping with research findings. Principles 5.46.3 and 5.46-4 call for clear statements of the applicability of a test and the standardization population. They state that descriptions in publication notices should be factual and descriptive rather than emotional and persuasive. (p. 155)

In these principles are interwoven the efforts of a profession to achieve status in the service of mankind. The student must contribute constructively to this goal by zealous attention to the work at hand to prepare himself for professional integrity based on sound knowledge, scientific curiosity and humane empathy.

SUMMARY

The practical issues of the professional psychologist have been considered in this chapter. Essentially tests cannot be

termine who will use them and under what conditions. These qualifications and controls have to be imposed by the members of the profession who are concerned with the welfare of the public and the constructive advancement of its practice.

The question of who shall use tests should be attacked at the training level. By setting up educational criteria of formal course work in undergraduate and graduate departments of psychology, some assurance is afforded that basic theoretical and applied principles will be included in the armamentarium of the neophyte psychologist. This must be supplemented by intensive supervised work in university and community clinics and hospitals under qualified clinical psychologists. This supervised experience may be in form of a practicum, clerkship, or internship.

Once having been exposed to the best in professional service in a variety of situations with different types of patients and problems, the budding psychologist becomes aware of the need for self regulation and control within the profession. This is especially important in those states that lack legal licensing or certification of the practice of psychology and the title of psychologist. The most cogent reason for intra-professional and external legal control is the protection afforded the public who are referred to or seek out, the psychologist for help with personal problems.

RÉSUMÉ OF PART VI

Most students in psychology hope to apply their specialized knowledge and skills after the proper preprofessional training. Part VI has dealt with the major areas of application of the tools and the interpretive skills of the trained psychologist.

One fact is impressive—that training in clinical psychology is appropriate preparation for work in all of the areas. This is especially so in view of the need for understanding person

ality structure and personality dynamics and the appreciation of the inadequacy of mere description. This becomes more obvious when it is accepted that diagnostic assessment is but the first stage in a more complete program of psychological help for the individual who has sought out this method of coping with a personal problem. In other instances, as in industrial applications, the psychologist has been brought in to solve problems raised by the employer which, in the main, involve predictions of an individual's employment suitability. This includes not only potential and/or actual skills but also intellectual and emotional efficiency adequate for the occupational program.

The extent to which these problems yield to the psychologist's analysis will determine the acceptability of psychology as an applied profession. In order to approach the highest degree of acceptance, criteria for the use of tests in terms of who shall use them within an ethical framework have been presented. There can be no disagreement with the minimum requirements of a good tester set forth in this Part. While these are the barest essentials, most competent users and interpreters of tests and measurement devices must go beyond these minima to continue doing an effective job. The ethical principles imposed by the psychologists upon themselves through their professional society are directed toward assuring a competent client-centered service. The publishers and distributors of psychological assessment devices have helped in this intraprofessional control program by voluntarily adhering to the standards adopted by the national professional association. The present movement is in the direction of external control through state licensing or certification to restrict the practice of psychology and/or the title of psychologist to those who meet the legal requirements. The inevitable outcome will be to increase the respect that the public and allied professions have for psychologists. But more important, because of the public education that is bound to accompany such a move, quacks and poorly trained persons will either be eliminated from practicing a unique brand of pseudopsychology or reduced to impotence as a fringe group.

THE FORWARD LOOK

The developments in personality assessment are inevitably related to progress in building personality theory. Because personality assessment and personality theory are interdependent, it is possible to continue raising questions and designing experimental procedures to find the answers. The role of theory is to help define the subject matter more satisfactorily so that the measuring instruments may be more accurately refined. Finally, as the subject matter and its measurement are established on firmer ground, the person doing the assessing can do so more effectively within the framework of an adequate explanatory theory.

In the process of surveying the various methods of assessing personality structure and personality dynamics, it becomes clear that the basis for evaluating personality lies in a behavioral approach. In the final analysis, an adequate theory of personality will have to emerge from the raw observational data of human beings—a behavioral theory grounded in empirical evidence.

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